

**Students' Perceptions of the Practice Firms Network  
Learning Environment in Brazil:  
A Phenomenographic Approach**

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## **Abstract**

This research deals with how students of a particular learning environment in management education, which I call here the Practice Firms Network Learning Environment (PFN), describe their relationship with this learning environment. In the PFN model students conceptualise, design and sell 'virtual' products and services to other people within the model, constituting a market that only exists by the pedagogical intentions of those involved with the model. The research was carried out to explore the relationship between students and the PFN model, and to describe the variation in perception of how students experienced this relationship, from their perspective.

The research sample was composed of twenty-nine students from two educational institutions in Brazil, using a phenomenographic approach. The students were interviewed and their narratives were analysed and categorised.

The analysis showed that the variation in students' descriptions of their relationships with the PFN model could be synthesised in seven different categories. The students experienced their relationship with the PFN as a:

- 1) Pointless experience;
- 2) Discipline experience;
- 3) Group Work experience;
- 4) Competitive experience;

- 5) Simulated experience;
- 6) Way of Learning experience;
- 7) Realistic experience.

The conclusions extracted from the data were that

- a) Students experienced the PFN in qualitatively different ways;
- b) The range of variation could be arranged to show that students categorised their experiences in the PFN from a completely pointless experience on one hand to a realistic engagement in the PFN on the other hand;
- c) From within a meaning dimension, students devalued the PFN model when they perceived it as a 'pointless' experience and valued it when they perceived it as adding meaning to their experience;
- d) From within a structural dimension, students perceived the PFN model as structured forms of experience to deal with tasks or situations. Whether or not they learned from these structures was situational.

In summary, the study concludes that students engage in learning activities in search of meaning. Nevertheless, the structures of educational activities influence if and how students will achieve their meaning purposes.

**Keywords:**

Practice Firms, Learning Environments, Students' Approach, Phenomenography.

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## **Declaration**

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This thesis is my own work and it has not been submitted for the award of a higher degree elsewhere.

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Who in his short passage on earth taught me lessons for life.**



## **Section 1 – Introduction**

### **An Overview of the Work**

This thesis is presented in five sections. Before I outline the content of Section One, however, I want to make clear the rationale behind the structure of the whole work.

This thesis structure is based on Perry's (1998) five-chapter model of presenting theses; a model to which I was introduced in a seminar that I attended at Lancaster University. I have used Perry's five-chapter model as a guideline and adapted it where necessary. For instance, I would call it more properly a "five-section structure" rather than a "five-chapter structure". In turn, each section is divided into two or more chapters. The five sections are: the introduction (Section One); the literature review (Section Two); the methodology (Section Three); the data analysis (Section Four); and discussion and implications (Section Five).

Perry's five-chapter model proved ideal for my need for clarity, organisation and control. This model has also been widely recognised as reducing the difficulties of writing and evaluating a PhD thesis (Love, 2001). Additionally, the structure makes reading and finding information easier for the reader. A brief description of each section of my work is provided below.

### **Section One**

Section One of this thesis is composed of two chapters. The first chapter (Chapter One) gives an overview of the whole work, presenting an overall description of the research. It begins with the presentation of the research problem that, in synthesis, I

define as *the relationship between students and their learning environment in management education*. I then pose my research questions, which were produced with the aim of understanding the relationship between students and a specific learning environment in management education – a model I called the Practice Firms Network Learning Environment (PFN)<sup>1</sup> – from the student’s point of view. Following this, I present the justification for the research, claiming that the Practice Firms Network (PFN) learning environment is a step forward in the search for a real-world learning environment. After that, I explain my methodology, the methods I used to collect data and how I analysed the data. Finally, I describe briefly the main findings of the research and the general conclusion.

The second chapter of this section (Chapter Two) describes the characteristics of the PFN. It is a short descriptive chapter about the concept of the PFN model based on information provided by the organisations that are responsible for the design and operation of the model. It is set out as a separate chapter near the beginning of this thesis to familiarise the reader with the concept of the PFN and the functioning of the model.

## **Section Two**

Section Two deals with the literature review in five chapters. The first chapter, Chapter Three, presents a model for the study of the learning experience. A learning experience is defined as the encounter of students and teacher(s) in a context. Chapter

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<sup>1</sup> Sometimes mentioned as Practice Enterprises, Training Firms, Training Offices, Virtual Enterprises, Virtual Companies, Virtual Businesses, Simulated Businesses, Fictitious Companies or simply Practice Firms.

Four follows with a discussion of two broad concepts which I found important in the learning context in order to understand the PFN model: the concept of education and the concept of learning. In Chapter Five, I explore the literature concerning management education, and follow with a discussion about learning environments in Chapter Six. Finally, Chapter Seven presents a discussion of the theoretical papers written about the PFN concept.

### **Section Three**

Section Three concerns the methodology I used in the research, and is composed of two chapters. The main objective of the first chapter, Chapter Eight, is to present the concepts of my methodological approach: phenomenography. Chapter Nine describes how I applied the phenomenographic methodological concepts in the field.

### **Section Four**

Section Four is composed of four chapters. The aim of this section is to reveal the data which I produced and collected in this study, and the categories of description within my phenomenographic analysis. The first chapter of this section, Chapter Ten, shows how the data were organised into sets that I called 'themes'. Chapters Eleven and Twelve organised the analysis of these data into two case studies: one from students of Faculty Pitágoras (Chapter Eleven) and the other from students of the MTS School (Chapter Twelve). Finally, in Chapter Thirteen, I presented a phenomenographic analysis of the outcome space and the conclusions of the research.

**Section Five**

The last section, Section Five, consists of two chapters. In the first one, Chapter Fourteen, I present the discussion of the data analysis and the relationship between my data analysis and the literature researched. The final chapter, Chapter Fifteen, shows the implications of the research for the theory and practice of the PFN concept in particular. It also illustrates some implications of the work for experiential learning environments in general.

# 1 Chapter One

## Introduction

### 1.1 Introduction

This thesis is about how students describe their experience with the Practice Firms Network learning environment (PFN), and how these descriptions can be analysed from a phenomenographic perspective. The PFN is a learning environment in management education where groups of around fifteen students run simulated enterprises performing the roles of the staff (i.e. clerical officers and managers) of these enterprises. Each group of students constitutes a simulated enterprise – called here a Practice Firm Unit (Pfu), or simply a Practice Firm (Pf).

Each Pfu conceptualises and trades a range of virtual products with people within the model (students, teachers and other Pfus). The set of all Pfus and people around this model of management education constitutes a network that I will hereafter call the PFN – Practice Firms Network Learning Environment. It should be noted that the PFN model constitutes a network of students and staff potentially connected in 29 countries around the world through ICT (Information and Communication Technology). This network is controlled by Europen (<http://www.euopen.de/>). In this study, the students' descriptions of their experiences within this learning environment are made the object of study in a phenomenographic perspective. The characteristics and functioning of the model are explored further in the next chapter.

In this chapter, my intention is to present an overview and a summary of the whole thesis. I begin by describing some problems that seem to persist in management education, especially those at the operational level. I have decided that this research aims to focus on one specific detail of one specific problem located at the operational level of management education, namely, the relationship between students and their learning environment.

I follow with the explanation of two key terms that are essential to understand my perspective within this thesis: firstly, the concept of the Practice Firms Network Learning Environment (PFN); and secondly, my limitation of the concept of management education. Subsequently, I explicitly pose the research questions and the research aims, pointing out that my main interest here is in the nature of the PFN concept from a student's point of view. I also briefly justify the need for researching this theme.

I then explain briefly my methodological approach, that of phenomenography, and how I used it in the field. A summary of the major findings and conclusions of the research is then presented. To conclude, I justify some of the boundaries which I applied to my efforts such as why I decided to collect data in Brazil. All these subjects will be explored further in separate chapters.

## **1.2 The Research Problem**

One way of classifying research in management education is according to the level of questions it proposes to answer. There are those at the policy level “concentrating on general issues and principles often at a national level ... [and those at the operational

level] ... implying a local focus and an emphasis on techniques and methods used within particular institutions” (Easterby-Smith and Thorpe, 1997: 38). Researchers have acknowledged that management education seems to have serious problems both at the policy level and at the operational level.

Mintzberg (2004), for example, believes that Gordon and Howell’s (1959) report about management education dealt with *business education* but that “management education [has never] been seriously considered” (p. 378). The author’s conclusion is that “it is time for the schools to heed their own prescription – namely, that change should come while things seem to be going well, before the fall” (p. 378).

As long ago as 1989, Jones had already expressed the concern that,

In most countries students go into the world of work believing that their examination successes will help them not only to get a job but also to do a job. It is an assumption which is usually shared by their teachers and by business management. Consequently it is usually with surprise and disappointment in their voices that managers and trainers complain that school leavers ‘are not very good at thinking for themselves’ and ‘they show no initiative and can’t cope with simple jobs’ (Jones, 1989: 22).

In Brazil, this kind of concern has also been expressed in various forms. In 1999, a survey involving managers, teachers and employers showed that these groups had several claims about the education that had been offered by management schools (Andrade *et al.*, 1999). The research concluded that among managers only 7.8%

considered that the course they had concluded offered them a “very good” preparation for the work of management. One of the reasons pointed out by the professionals was that their “university degree [was] excessively generic [and] diverted from a commitment with a work-based area”<sup>1</sup> (p. 80). Specifically, the group of managers complained that

- a) The fragility of the “practical training” jeopardised the immediate utilisation of the acquired content;
- b) The content of each discipline was very generic and superficial;
- c) The content of each discipline did not reflect the needs of the labour market;
- d) The course was out-of-date, unable to deal with the rapid micro and macro transformation of the modern world;
- e) The course gave you an illusion that the great opportunities were in the big companies, while the great majority of job opportunities occurred in small and medium companies (Andrade *et al.*, 1999: 82).

In the same survey, the teachers pointed out the following deficiencies in the training of management students:

- a) The inadequate link between theory and practice,
- b) The lack of connection between the course and the necessities of the market,

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<sup>1</sup> All the survey translations are by the author.



- c) The limited space of time dedicated to research;
- d) The unmotivated, uninterested and apathetic student;
- e) The inadequacy of the newcomers' profile and
- f) The lack of unity and coherence in the curriculum (Andrade *et al.*, 1999: 17).

Moreover, according to the employers questioned in the same survey, the main limitations of management graduates were:

- a) Their excessively theoretical outlook;
  - b) The lack of an integrated perspective of the enterprise;
  - c) The domain of useless content, and
  - d) The immaturity and the inexperience of the newcomers
- (Andrade *et al.*, 1999: 19).

These survey data suggest the existence of many gaps between the world of work and the academic realm. It seems that “we do not yet know well how to design effective instruction for complex domains” (Spector, 2000). This situation calls for research on diverse aspects of learning in complex domains, as management education seems to be an example of such a complex domain.

In this thesis, I explicitly situate my research interest within a field of studies on the relationship between complex learning environments and students' approaches to learning. Considering the students' approach to learning environments is important

because learning environments are the embodiment of what we may term 'the institutional understanding of learning' or more appropriately, the understanding which institutional learning designers have of learning and of the purposes of education. I underpin my interpretation of the relationship between students and their learning environment in a constitutionalist version of the 3 P Model of teaching and learning (Prosser and Trigwell, 1999). The 3 P Model of teaching and learning tries to show the holistic relationship of the elements of a learning situation, and is fully explained in Chapter Three.

Learning environments are understood here in three perspectives: as places, as structures, and as activities (Wilson, 1996; Illeris, 2002). From the perspective of activities, the dominant pedagogical instrument of offering instruction in the educational system (schools, colleges and universities) continues to be lectures, which have been studied thoroughly (see Hodgson, 1980; 1997 and Bligg, 1971; 2000). Nonetheless, Mintzberg (2004) notes that "business schools have not been inclined to stop [in classroom-based experience] ... and have looked far and wide for other pedagogical methods, especially in search of that "real world" of managing" (p. 43). Some of these methodologies include action learning (Revans, 1971; 1998), venture planning courses (Pittaway, 2004) and service-learning (Wankel and DeFillippi, 2002).

In action learning, people in groups "tackle important organisational issues or problems and learn from their attempts to change things" (Pedler, 1996: 13). It is defined as a form of management development in which people voluntarily convene "to exchange, support and challenge each other in seeking to act and learn" (p. 15).

Nonetheless, this form of learning has been more appropriately applied to groups in real-world organisations than to student groups in schools.

Venture planning courses “seek to simulate learning in entrepreneurship by engaging in experiential learning and reflective practice” (Pittaway, 2004: 2). Students are encouraged to “develop a business idea and work on practical plans to turn the idea into reality, the outcome of which is the development of a comprehensive business plan” (p. 2). This type of learning organisation is believed to create a strong link between theory and practice. However, it deals with a specific problem of management education, the business plan, and is frequently and explicitly used for the training of entrepreneurs.

Service-learning is defined as “the process through which students combine their personal learning with work which is of direct and tangible benefit to other people” (Goodlad and Hughes, 1992: 39). Service-learning is directed at young people who apply academic skills to solving real-world issues, using problem-solving skills and critical thinking. The concept is closely linked to what have been called junior enterprises, in which students manage non-profit organisations related to their field of studies. Nevertheless, service-learning is mainly intended to be oriented to a particular problem or to a specific community need.

These alternative methods in management education look for innovative initiatives towards integration. However, integration in management education is difficult “in view of the diverse and varied nature of the business and management curriculum” (Macfarlane and Ottewill, 2001: 59) and also because students will not “recognise

linkages between their learning experiences and understand the potential for cross-fertilisation without help and support” (p. 59).

Moreover, the task of designing instruction methods in management education is fragmented. The programme and the course contents are generally a collegiate matter, but the means of achieving the learning aims are, as a rule, left as the individual responsibility of the teacher, even when heads of departments, counselling advisors and pedagogical supervisors are able to influence them by exercising authority or providing guidelines. I was intrigued, then, when I heard about the learning environment called the PFN. It seemed to me that it could be a potential alternative format of management education that could bridge some of the gaps between theory and practice.

The PFN model also seemed to be a unique learning environment. Different to management games and other business simulations, for example, the PFN model is not embedded within some software with pre defined relationships between variables. Compared to more real-world-like learning environments such as venture planning courses or service-learning, the PFN also presents some noticeable unique characteristics. It has completely different purposes from action learning, for example, in which the learner is an actual manager who should be involved in an actual experience, or from service learning where students are involved on actual problems; which is a relevant feature of the model; but these problems are neither integrated with the programme of the course nor constitute a organized whole which may be handle for the purpose of learning.

In contrast, the PFN model is an organized system that constitutes a pedagogical unit in which students, regardless if they are experienced or not, are supposed to be learning by doing activities and reflecting on the experiences they have. The model is also enduring, independently of specific students that enter and leave the model as long as their learning experiences are completed.

My first contact with institutions that used this model appeared to indicate that staff were very enthusiastic about it. However, institutional discourses should be checked out in practice in order to be confirmed or otherwise. Is the PFN model a real contribution to the development of a learning environment in management education which brings students to a 'real world' of management? This thesis was constructed to explore this problem from a student's perspective.

At this point, in order to delimitate the scope of the research, it is important to introduce the meaning of two key concepts: that of the PFN and that of management education. I deliberately chose to name my phenomenon of study in this research 'the Practice Firms Network Learning Environment' (PFN). I decided to use 'Practice Firms' instead of 'Virtual Enterprises' or 'Training Offices', as are sometimes used in the literature, in order to be consistent with European's<sup>1</sup> designation (<http://www.europen.de/>), which gave birth to the model. I added the word 'network' to the term to emphasise the networked nature of the model and the links that exist between all the units.

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<sup>1</sup> Europen is an association of educational institutions based on Germany.

Within this thesis, the operational unit of the model is called a Practice Firms Unit (Pfu), or simply a Practice Firm (Pf). A Pfu runs “like a ‘real’ business silhouetting a ‘real’ firm’s business procedures, products and services” (European folder). Generally, several Pfus will exist in each school operating the PFN model, each one consisting of a group of students who work and manage that specific Pfu. Therefore, when referring to a Pfu or a Pf, I will be referring to an operational unit of the model, not to the model as a whole.

The second concept that I would like to clarify from the beginning is what I call in this research ‘management education’. Management education as a field of study and practice has increasingly been considered important (Abbot, 2003); the demand for this kind of education has grown constantly during the last three decades (Watson, 2003). Yet what is meant by management education is large and broad. It may mean on-job training for new staff, further education for senior staff, development of leadership in society, academic research, and much more.

However, in this research, management education has a more limited definition. Management education will be considered here as a concept that gives high school or university students a basic understanding of how to perform tasks with and within organisations. I will therefore be interested in management education as an educational activity that introduces the messy world of management both to students from the age of 16 in secondary schools and to undergraduate students in management. The concept of management education will be discussed further in Chapter Five.

### 1.3 The Research Questions

The core purpose of this research is to answer the question, “how do management students relate to their learning environments?”, and to describe this relationship. The relationship in which I am interested here, however, is not the relationship of any student with any learning environment, but of specific students in management education and a specific learning environment that is called the PFN in this thesis.

Few works have addressed the question of the nature of the PFN concept, and none of them has specifically studied the nature of the relationship between students and this learning environment from a student perspective. Therefore, the specific question that this work addresses is ‘what is the PFN as described by the students?’ Another question that could be derived from this study is concerning students’ perception of the relevance of the model. Do students perceive the model as relevant to their understanding of management?

Students’ description of how they went about their tasks in this learning environment allowed the construction of categories in a phenomenographic perspective. These categories also addressed parallel questions, such as that of the similarities between the PFN model and other educational technologies, such as lectures, group work, simulations and games, as models for teaching management. Does the PFN really differ from these methods of management education? It is also possible that the PFN was seen by students as a kind of lecture, a kind of simulation, some form of game, or a mixture of these methods. The students who participated in this research were the key source of the answers to these questions.

Although the focus of the questions in this research is on the operational level, I acknowledge and refer to the importance of paying attention to other levels of influence on the operational issues. The action of agents in a learning situation is generally part of a broader enactment inserted in an educational institution; the educational institution is embodied in organisational networks that, in turn, are affected by regional and national cultural contexts and governmental policies.

#### **1.4 The Research Aims**

There are two related aims in this research. The first aim of the research is to discuss the relationship between management students and their learning environments, in a specific format of management education referred to as the PFN, in order to make a contribution to the knowledge base of this kind of relationship in management education. As I have already stated, this knowledge base is still sparse. As a result of this, the research operates in a *design mode* (Bereiter and Scardamalia, 2003); it is interested in local and concrete uses of knowledge creation. I acknowledge nevertheless that this is a partial contribution, since it is based on the students' perception of the model only.

The second aim of the research is to make a contribution to the development of the PFN model. This discussion is considered important to designers of the model because they are interested in knowing the intricacies of how their products perform when they are manipulated by users; the users are the people with the greatest insight into this. The PFN model is an 'artificial world'; a 'purposive reality', and as Simon (1996) stated, the design of an artificial world "is concerned with how things ought to be, with devising artifacts to attain goals" (p. 114). To attain goals designers have:



- a) Firstly, to know how things are and what are the possibilities of modifying them;
- b) Secondly, to concern themselves with how things can be constructed or modified to serve specific goals.

That is the reason why this research hopes to go beyond the description of students' perception or experience of the PFN and contribute to the debate of how management education can be improved in the light of students' experiences of the PFN. To achieve these aims, the research provides an in-depth description of the PFN model from a phenomenographic perspective.

## **1.5 Justification for the Research**

There are three types of justification for this research: one is theoretical, the other two are practical. The theoretical justification for this research follows Hounsell and Entwistle's (2005) recent proposition that empirical research across disciplines demonstrates the need to treat each subject area as having distinctive teaching methods which reflect the nature of that particular subject.

The authors conclude that there is not a 'one size fits all' methodology for the teaching and learning experience; there must be a match between the language, the concepts and the everyday discourse, and the ways of thinking and practising in the particular discipline. The logical implication of these research findings is that if one aims to understand the structure and practice of a learning environment such as the

PFN model, one should research the learning and teaching conventions of this specific model of learning environment rather than those of different models.

The other two justifications for this research are practical. The first one is the scant literature about the model, as outlined above. As the PFN model has been increasingly adopted throughout the world, the importance of providing a theoretical discussion about the model has also increased.

The second practical justification for this research comes from my personal position as a management teacher in the higher education sector in Brazil. This research is a personal project that helps me to develop my future pedagogical practice in management education, and to answer intellectual questions about the relationship between theory and practice. I also hope to contribute to the development of management education in my country.

It is apparent, however, that my interest in the PFN model in this research is purely academic. Despite the fact that I am a manager educator, I am not and was not involved with the design or implementation of the PFN model in any way. I also am not, and was not, a member of the staff in any institution in which the model was used. I neither claim that this was an advantage nor a disadvantage; I mention this here to state clearly my academic position.

## **1.6 The Methodology**

There is no need to justify qualitative studies these days; qualitative studies have been accepted in their own right since the 1980s. However, there are many different

approaches among those who conduct qualitative research. Choosing a methodological route was a very difficult task personally. The reason, I think, is because I came to Lancaster with a very positivist bias. I felt that my beliefs were not satisfactory, but it took me time to consider and choose between qualitative methodological alternatives.

In the battle between idealists and materialists, I align with Popper's (1974) observation: he asserts that there is no way to prove who is wrong or who is right. According to Popper, an idealist can always claim that our proofs of realism are a mind-made conception, and all our provisional attempts to ascertain reality are dreams. On the other hand, a materialist can always point to common sense to support his view. In summary, Popper concludes that "idealism is irrefutable...realism is indemonstrable" (p.39).

Ontologically speaking, I assume that reality is dual. There is an external and independent reality which is concrete but meaningless; and there is an internal reality, a mind construction represented and shared through communicative discourse. One way of making sense of this dual character of reality is through experiencing it and engaging in discourse about the experience; phenomenography fits this purpose.

Although some ontological and epistemological positions of phenomenographic perspective seem to deny completely the concreteness of the world, there are those, however, who acknowledge the dual nature of reality despite the problematic relationship between these two worlds.

Phenomenography is defined in the literature as an empirically-based approach to research that aims at “mapping the qualitatively different ways in which people experience, conceptualise, perceive, and understand various aspects of, and phenomena in, the world around them” (Marton, 1986: 31). Phenomenography can be used when the intention is to explore some aspects of a “hidden world of human conception” (p.33).

Phenomenography approaches the phenomenon of study by means of a second-order perspective (Marton, 1981). A ‘second-order perspective’, requires that the answer to the question “what is the PFN?” considers the descriptions of those who have experienced the phenomenon; instead of imposing a structure of my own on the PFN model, I looked carefully into the huge amount of empirical data produced in interviews with students of educational institutions which had used the model, and then constructed a set of categories that arose from this data.

Following Bowden (2000), I also adopted a ‘developmental perspective’ to phenomenography, that is, I considered that my work was seeking “to find out how people experience some aspect of their world, [and enable] them or others to change the way their world operates” (p.3). The full description of the phenomenographic perspective employed in this research is given in Chapter Eight.

## **1.7 The Sample and the Method of Data Collection**

Twenty-nine students from two educational institutions in Brazil constituted my sample. The first educational institution, The Managerial Technical School (MTS), is a secondary school that defines its organisational goal as “leadership in

entrepreneurial education technologies, through the use of innovative pedagogical practices” (ETFG, 2005a: 8).

The second educational institution is Faculty Pitágoras. According to its pedagogical project, the goal of the Faculty Pitágoras is “the intellectual autonomy of the student” (<http://www.faculdadepitagoras.com.br/>). To achieve these aims, according to the school website, the methods of learning focus on the ‘applicability’ of what is learned.

In order to collect the data, I used semi-structured interviews. I began the interviews with a general indication of where my interest lay; I usually used a phrase such as: ‘Would you tell me about your experience in the Practice Firm?’ After the interviewee had responded, I followed up with questions that helped me to understand further the meaning of their experiences and the meaning of the learning outcomes that derived from those experiences. The details of this journey are explored in Chapter Nine.

## **1.8 The Data Analysis**

The interviews produced a large stream of audio data that I listened to many times until I felt familiar with them. The interviews were then separated into two case studies to facilitate their analysis. One case study was constructed using students from Faculty Pitágoras, and the other case study was constructed using students from MTS. The analysis was done in such a way that phenomenographic ‘categories of description’ were formed based on the data. The analysis of data showed that seven qualitatively different conceptions of the PFN were expressed by students; these categories also presented some variation within them. Finally, an ‘outcome space’ was

elaborated and described. Section Four shows in detail the construction of this analysis.

Below, I relate and describe briefly the meaning of each one of the seven categories of description that were constructed through the analysis of data.

## **1.9 The Categories of Description**

The data showed that students described their experience in the PFN model as a:

- 1) Pointless experience;
- 2) Discipline experience;
- 3) Group Work experience;
- 4) Competitive experience;
- 5) Simulated experience;
- 6) Way of Learning experience;
- 7) Realistic experience.

### **1) The PFN as a ‘pointless’ experience**

In this category, students perceived the PFN as meaningless and not contributing to their educational needs. According to these students, the experience had not been what they had expected and so they were disappointed with the model.

### **2) The PFN as a ‘discipline’ experience**

In this category, the PFN was seen in the same way as any other traditional school discipline, such as Maths or Science. Students thought that they should follow the rules defined by the educational institution, which were the same as those of any other

academic discipline in the school, and that they should be attentive to teachers' requests and assessment standards. In other words, students were basically occupied in satisfying the academic requirements laid down by tutors, especially those relating to how the discipline was assessed and how the marks were allocated.

### **3) The PFN as a 'group work' experience**

The idea expressed by students in this category was that the PFN was a good space and opportunity to learn about working in groups and working as a team. The group work in the PFN was seen at some times as similar to schoolwork groups and at other times as similar to sectors, departments and functions of real enterprises. In all cases in this category, however, the PFN work groups were seen as the relevant unit of practice in the learning environment.

### **4) The PFN as a 'competitive' experience**

The PFN seen as a competitive experience emphasised the rivalry students experienced in the learning environment either between different Pfus, or between individuals within the same Pfu.

### **5) The PFN as a 'simulated' experience**

Students experiencing the PFN in this category saw the learning environment as a model where business processes were being simulated. The students were conscious that what they were doing was not 'real' and had no real consequences outside the model, but they engaged in the learning situation to play a role that they usually believed would be important in order to know how things would work in the 'real-world'.

### **6) The PFN as a ‘way of learning’ experience**

In this category specifically, what students tried to express about their experiences was that the PFN gave them different ways of learning, whether by instruction, by doing tasks themselves, or by committing mistakes; they were in the learning environment to experience and to learn by those experiences, even if they were unpleasant.

### **7) The PFN as a ‘realistic’ experience**

In this category, students experienced the PFN as engaging in real processes; although the participants recognised the pedagogical and virtual nature of the model, they considered that the processes that happened in the learning environment could be seen as real in their own right.

## **1.10 Conclusions and Contribution of the Research**

From a phenomenographic perspective, the main conclusions of the research are:

- a) Students experience the PFN in qualitatively different ways;
- b) The range of variation can be arranged to show that students categorise their experiences in the PFN ranging from a completely ‘pointless experience’ to a ‘realistic involvement’ with the PFN. This variation was grouped into two dimensions: a meaning dimension and a structural dimension;



- c) In a meaning dimension, students devalue the PFN model when they perceive it as a 'pointless' experience and students value the PFN model when they perceive it as aggregating learning to their experience;
- d) In a structural dimension, students experience the PFN model in ways (whether these be academic disciplines, group work, competition or simulations) that help them to deal with tasks and situations in the model. The kind of learning they take out of these events and situations was perceived as contextual;
- e) Students' approach to the PFN model nevertheless was neither fixed nor unidirectional. Students described their experience as evolving and the change occurred in both directions: either from 'pointless' to 'realistic' or from 'realistic' to 'pointless';
- f) Teachers' approach to the model had considerable effects upon students' experience of the model.

My intention is that this thesis should contribute to the existing knowledge by providing a comprehensive description of the PFN model from a student's point of view. A detailed discussion of these conclusions and the implications will be explored in Chapters Fourteen and Fifteen.

### **1.11 Boundaries of the Research**

Finally in this chapter, I wish to present the boundaries which I chose to establish in the definition of my research object and in the conduct of my research process. These boundaries were consciously traced to delimit what I was interested in researching from what I considered to be outside the scope of my study. For instance, I had to decide where to investigate my object of study. Although the PFN is a concept presented in 29 countries throughout the world, I chose to investigate the use of the PFN concept solely in the Brazilian educational setting. It would be interesting in future research to study the model in other countries and to compare the different uses of the model across countries.

Another boundary I deliberately chose was on the type of participant I decided to analyse. Although I initially interviewed students, teachers and technicians of the model, I came to the conclusion that it would be more appropriate only to use students' descriptions of the learning environment in this research. This provides a more consistent way to look at the literature and the data, and to discuss the results. Future studies could also include the perceptions of the model held by teachers and technicians, and the relationship between these conceptions.

### **1.12 Summary of Chapter One**

In this chapter, I outlined an overall view of my research and why I believe it to be worthwhile. The characteristics of the PFN were briefly described and I delimited my concept of management education. I indicated that, among the many problems that management education faces, my interest here lay in one specific problem at the operational level: how students described their perceptions of a specific learning

environment called the PFN. I identified that my main aim in this research was to understand the relationship between students and the PFN.

My research was defined as exploratory and inductive in a second-order perspective. Phenomenography was chosen as my research approach as I was interested in mapping the different ways in which students conceptualised their experience with the PFN model. To collect data, I interviewed 29 students from two different educational institutions in Brazil.

The analysis of the data showed that students experienced the PFN model in seven qualitatively different ways. From the categories of description that were constructed from the data, I concluded that the PFN was described in terms ranging from a completely 'pointless' experience to a 'realistic' experience. Finally, I outlined some boundaries which I deliberately applied to my efforts. All these issues will be explored in detail in the body of my research.

## **2 Chapter Two**

# **The Characteristics of the Practice Firms Network Learning Environment (PFN)**

### **2.1 Introduction**

In this chapter, I present a detailed description of the characteristics and the functioning of the Practice Firms Network Learning Environment (PFN). The theoretical discussion of the PFN concept, however, is left to Chapter Seven. It is important to introduce the description of the characteristics and functioning of the PFN model here to make clear to the reader the structure of the model and how it operates, and also to introduce the PFN concept into the theoretical discussion about education, learning and learning environments in management education.

This chapter begins with some information about the origin of the model and its characteristics in certain countries. I then define the PFN model as a set of five elements. I explain the function of each element in the system, and how they interact. Finally, I give some information about the use of the model in Brazil.

The chapter is based on documents that I collected on the internet and from institutions which coordinate and operate the model both internationally and in Brazil.

## 2.2 Origin and Purposes

The origin of the PFN model is Austria: according to Philipp (1998), the concept of practice enterprises has a tradition in Austria stretching back over more than 200 years, with roots that can be traced back to the 17<sup>th</sup> century in the Austro-Hungarian monarchy. At that time they set up in the commercial colleges, the so-called “Musterkontor” or model office, and “offered over-sleeves, stand-up collars, inkpots and writing stands” (<http://www.act.at/>). Gramlinger (2004) adds that at that time

the merchants were interested in providing a better commercial education for their apprentices, with more realistic exercises and simulations. [...] By the second half of the eighteenth century, the first practice offices had been established in the German commercial colleges in Hamburg, Nurnberg and Erlangen. These ‘Übungskontore’ (an obsolete German word for training office) were the forerunners of the Practice Firm of today (p. 82).

However, “at the end of World War I, this form of business-oriented education and training disappeared from the curricula” (Philipp, 1998: 3). It was re-established at the end of World War II. In Austria, as a result of the introduction of the new curriculum in 1994, the participation of students in the PFN is compulsory in commercial schools (Gramlinger, 2004). Since that date, the number of Pfus has risen from 50 in 1992/93 to 1,000 in 2000/2001 (<http://www.act.at/>). Once it had been established in Austria, the model began to be disseminated to other countries. Nowadays, it is offered in twenty-nine other countries throughout the five continents (see Table 1 below).

**Table 1 - Number of Practice Firms in different countries****(April 2006)****EUROPEN Member Countries**

<b>Australia 120</b>	<b>France 110</b>	<b>Russia 14</b>
<b>Austria 1100</b>	<b>Germany 587</b>	<b>Slovak Rep. 229</b>
<b>Belgium 78</b>	<b>Great Britain 25</b>	<b>Slovenia 210</b>
<b>Brazil 104</b>	<b>Hungary 256</b>	<b>South Africa 6</b>
<b>Bulgaria 83</b>	<b>Italy 324</b>	<b>Spain 141</b>
<b>Canada 41</b>	<b>Lithuania 50</b>	<b>Sweden 62</b>
<b>Croatia 11</b>	<b>Netherlands 175</b>	<b>Switzerland 46</b>
<b>Czech Republic 171</b>	<b>Norway 67</b>	<b>Ukraine 14</b>
<b>Denmark 48</b>	<b>Poland 58</b>	<b>U.S.A. 286</b>
<b>Finland 59</b>	<b>Romania 11</b>	<b>Total: 4486</b>

Source: <http://www.europen.de/>, last accessed on 05/04/06.

Although it takes on different roles in the various countries, the concept generally is supported by educational policies. In Switzerland, for example, the concept of the PFN is supported by government bodies: the Swiss Central Office was set up to develop and run a Practice Firms Network as a means to alleviate the country's unemployment (Comte, 2004: 7). In the USA, the PFN concept, known as Virtual Enterprises International, is a trademark of the New York City Department of Education, which has supported the development of the concept since 1994. In the Slovak Republic, the Ministry of Education established the PFN model at the State Vocational Education Institute. In Denmark, the model was introduced in 1990, after

the Government passed a law that guaranteed all interested people an apprenticeship (Johansen, 2000).

Depending on national and regional needs, the model has slightly different characteristics and is used in slightly different applications. These include vocational orientation of pupils, training and promoting human resources, updating competences, and assisting people with special needs. It has been used in high schools and colleges, in universities, in adult education institutions and in medical rehabilitation as a full- or part-time operation (<http://www.act.at/>).

In the Netherlands, for example, the PFN has been used by vocational schools/colleges as an instrument for competency-based vocational education (Boering, 2005). The French network of Practice Firms has been applying the concept within the penitentiary system for its adult detainees, with the aim of developing the PFN as a tool of socialisation, of training, and as an aid to social reintegration (Troton, 2004). In Australia, there was an initiative to use the concept of PFN as a means to provide parents up to the age of 25 with the opportunity to complete their secondary schooling. The concept was also used by the Enterprising Young Mothers Project, in which a Pfu was created to test a new social enterprise before its formal establishment and real-world operation (Dalglish, 2004).

The model may be used in a cross-curricular programme. In Croatia, for example, the model connects all economic subjects (entrepreneurship, economics, bookkeeping, business communications, statistics, marketing and shareholding) and foreign

languages (English and German). The program of the PFN is extended throughout the four years of high school education (<http://www.vb-zagreb.org/>).

In the United Kingdom, the model is considered to enable the “students/trainees/employees [to] learn to work as a team and develop interpersonal skills by working with others, improving their own learning and experience and performing the various jobs” (<http://egni.morgannwg.ac.uk/>) required in an enterprise. This includes the use of information technology, the organisation and monitoring of work, the preparation of minutes of meetings, the design of documentation, and many other activities.

The PFN model is believed to provide a safe and secure learning environment in a comprehensive, student-oriented approach towards teaching and working with practical, task-oriented instruction (<http://www.nycenet.edu/>). It is also intended to be beneficial not only to students, but also to the hiring organisations. In addition, the model comprises a network of similar Pfus in different countries, linking students from different cultures, business practices and currencies and providing them with the opportunity to practice another language or improve their English language skills in real situations.

### **2.3 The Elements of the Model**

To have a further understanding of how the PFN concept is constituted and how it works, one should consider five major elements in the model. These elements are:

- The European Organisation;
- The Central Offices;



- The Practice Firms Units;
- The Market of Practice Firms;
- The Business Partners.

**Figure 1 – A Practice Firm Network Learning Environment Model**



**Source: Research Data**

I will first present a brief description of the role of each of these elements and their relationships to each other; I will then concentrate on how the model functions in Brazil.

### **2.3.1 Europen**

Europen is a non-profit international organisation that coordinates and operates the PFN model globally. Europen was established on 27<sup>th</sup> October 1997 and is located in Germany. The founder members were educational institutions from Austria, Canada, Denmark, Finland, France, Germany, Great Britain, Italy, the Netherlands, Sweden, Spain and Switzerland. At the time of this research, several other associated countries were involved with Europen and participating in the model. These other countries were Argentina, Australia, Brazil, Bulgaria, Croatia, the Czech Republic, Hungary, Latvia, Lithuania, Norway, Poland, Romania, the Slovak Republic, Slovenia, South Africa, Ukraine and the USA.

Europen's mission is to co-ordinate, develop and support services, adding value to the activities carried out in its members' national networks, to promote and enhance the concept of learning in and from a simulated business environment, and to expand the number of its regional and national networks. This Coordination Centre has among its roles those of the presidency and co-ordination of the various Central Offices, and is funded by the participating members.

### **2.3.2 The Central Offices**

In each associated country, Europen establishes a partnership with a local educational organisation, which is accountable for coordinating the operation of the PFN model within that country. This organisation has the responsibility of allocating people who will perform the tasks of coordinating the model locally; these people constitute the Central Office in that country.

Central Offices perform four different tasks within the model. Firstly, the local Central Office is the Pfu reference point when this has to relate to an 'outside world': the organisations which would be essential for the operation of an enterprise in the real world but with which the Pfu does not actually make contact. For example, every economy needs to have a financial coordinator (a Federal Reserve). The Central Office provides this service within the model. Other services, including insurance services (health, social, and possessions), governmental agencies and tax offices are provided by the Central Office. It also functions as an accountancy counsellor, a supplier centre, and a financial market.

Secondly, the Central Office has the responsibility of coordinating the Pfus within its concession area, providing the link between all Pfus, both in the national and in the international market. In the international market, it provides the conversion between different currencies when a Pfu needs to sell or buy abroad.

Another role of the Central Office is to promote and coordinate Pfu trade fairs in its concession area. Pfu Trade Fairs imitate real trade fairs, occurring in a face-to-face basis and providing the Pfus with the opportunity to trade their products, and the students to hone their negotiating skills. I explain this concept in more detail in item 3.4.

Finally, the Central Office supports the expansion of the model by promoting seminars, meetings and information; this facilitates the addition of new members and new PFN branches.

### **2.3.3 The Practice Firm Unit (Pfu)**

Another element of the model is the Practice Firm Unit (Pfu). The Pfu corresponds to an enterprise that is organised within the participating educational institutions, with groups ranging from five to fifteen students who perform the roles of employees and managers of these enterprises. The Pfu conceptualises, 'produces' and sells a range of products or services in the PFN simulated market. In general, the products and services of a Pfu are not real, although in some cases they may be. That means that the products are conceptualised, projected, accounted and sold, but they are neither physically 'produced' nor 'delivered'.

To start up the business, the students may have to produce a business plan and organise the functional sectors of the enterprise. Then they are divided into groups, each group corresponding to one sector (finance, purchases, sales, HR, etc). Virtual sales are made to other students in the PFN, to teachers, and to other pedagogical personnel around the model. At the end of the academic term, the Pfus are balanced and handed over to another group.

**Figure 2 - The Practice Firm Environment in SEBRAE/Mg-Brazil**



**Source: SEBRAE/Mg-Brazil**

#### **2.3.4 The PFN Market**

In the PFN model, the market is constituted, on the supply side, by the set of products and services that are offered by the Pfus; and on the demand side, by the students, teachers, other Pfus and people that surround the model. From this ‘pedagogical community’ arise the ‘economic needs’ which the Pfus have to furnish.

The Central Offices generally promote Practice Firms Trade Fairs to stimulate the meeting of suppliers and customers using the model; these fairs are very popular with students. On these occasions, the Pfus get together in a single physical space to promote their products and businesses. In this sense, they mirror real trade fairs. The picture below shows a local trade fair that took place in Belo Horizonte, Brazil, in September 2005.

**Figure 3 – A Trade Fair in Brazil**



**Source: Research Data**

### **2.3.5 The Business Partners**

The final element of the system is the Business Partner. The Business Partner is a real company from the existing economy, usually from the same sector in which the Pfu has decided to run its business. The role of the Business Partner is to provide a link between the Pfu and the real market, in order to give support, business information and assistance to the students in respect to the functioning of the working market. This may include best practices of business, such as how to elaborate a market pool, and producing budget plans and price lists. They may also provide, according to the Australian Network of Practice Firms (ANPF):

- Information about the business (for example, number of staff, salaries, capital, its own organisation chart and copies of procedures manuals to help in setting up the simulated business);
- Access to their premises (such as an initial introductory tour for students and teachers);
- Advice on business problems as they occur;
- In-house training and staff development for the practice firm teachers;
- Ideas for project work;
- Work placements for students;
- Industry placements for students;
- Employment for practice firm graduates  
(<http://www.anpf.cit.act.edu.au/>).

The Business Partners also benefit from working with Practice Firms. Usually, the associate Pfu promotes the Business Partner's brand, products and services, especially at the PFN trade fairs. The PFN can also be a potential source of new employees.

## **2.4 The PFN in Brazil**

In Brazil, SEBRAE (<http://www.sebraemg.com.br/>) is the organisation accredited by European to run the PFN model. SEBRAE is a national not-for-profit society, which aim to promote the competitiveness and the sustainable development of small and

medium-size businesses throughout the country. SEBRAE was created in 1972 as a governmental agency, and privatised in 1990. SEBRAE is represented in all twenty-six states of Brazil.

SEBRAE's main budget comes from compulsory contributions of companies; on average 0.6% of their employees' salaries. One of the main purposes of SEBRAE is to promote education in entrepreneurship. Therefore, SEBRAE promotes qualification courses, facilitates access to financial services, stimulates cooperation between companies and organises business-oriented fairs. It also helps to develop activities for the generation of jobs and income. Each state agency of SEBRAE is autonomous; as I did this research with the SEBRAE agency in the state of Minas Gerais, hereafter all references to SEBRAE indicate this particular agency.

Managerial Technical Schools were one type of initiative performed by SEBRAE in Minas Gerais State. These schools run secondary technical degrees in management. The first SEBRAE Managerial Technical School (MTS) was created in the city of Belo Horizonte, MG in 1994. At the time of this research, there were twenty MTS in different cities of the state of Minas Gerais, Brazil, using the PFN model. In Belo Horizonte MTS, the PFN model has run since the foundation of the school.

The Central Office in Brazil is known as CESBRASIL, and is based in Belo Horizonte MTS. At the time of research, the model was also used in seven other partner institutions: UNIPAC, Faculty Pitágoras, the Catholic University, UNA Business School, UNATEC, UNIVALE and Faculty of Management-Passos. All these institutions are private educational organisations, running Higher Education courses.



My research was carried out in two of these institutions in Brazil: the Managerial Technical School of SEBRAE/Mg (MTS) and Faculty Pitágoras. Both institutions are located in Belo Horizonte, the capital of the State of Minas Gerais. In Chapter Nine, I will mention the pedagogical characteristics of the PFN model both in MTS/Sebrae and in Faculty Pitágoras' educational institutions.

## **2.5 Summary of Chapter Two**

In this chapter, I described the main characteristics of the PFN, and how the model is used with different purposes in different countries. Five major elements of the model were defined: a) Europeen, the global coordination centre; b) the Central Offices, local coordination centres; c) the Pfus, the operational units of the model; d) the PFN market, that is, people and other units of Practice Firms which trade in the model; and e) the Business Partners, real organisations that support and advise each specific Pfu. I then provided some information about the use of the model in Brazil, since the focus of the research is on the Brazilian experience of the model.

The description provided in this chapter was based on information that was available about the model on the Internet, in promotional material produced by the promoters of the model, and in private conversations with members of the staff. It does not constitute, however, a review of the literature about the model; this will be carried out in Chapter Seven. Before that, I aim to place my research in a wider context and begin to insert the discussion of the PFN model into a theoretical framework about education and learning experiences. This will shed light on the approach I wish to take, and make clear my perspective.

## **Section Two – The Literature Review**

### **The PFN as a Learning Experience in Management Education**

Section Two is dedicated to a review of the literature. Perry (1998) claims that the aim of the literature review is to ground the work within a “theoretical foundation”.

According to Perry, the literature review should be based on “the relevant literature to identify research issues which are worth researching because they are controversial and have not been answered by previous researchers” (p. 72). I would argue in my case that, because of the exploratory and descriptive nature of my research and the lack of literature about the concept of the PFN model, I initially need to locate my object of study into a broad discussion about education and learning.

This section comprises five chapters. The rationale behind the scope and the sequence of the chapters is as follows: in Chapter Three I began with a holistic perspective, situating this work into a model called the 3 P Model of Teaching and Learning. A brief history of the 3 P Model is provided, then I discuss the model from the “constitutionalist” (Prosser and Trigwell, 1999) perspective.

Chapter Four is dedicated to the exploration of the concepts of education and of learning. I found it important to understand the main paradigms of these concepts in society, as they provide background to the learning experience. These concepts are generally taken for granted in educational institutions, although different approaches to the concepts lead to different commitments to the learning process.

Chapter Five reviews the concept of management education, its nature, different perspectives and the many problems that this concept faces. It is included to stress the challenges that management education meets and the fundamental premise that, as Hounsell *et al.* (2005) have found, different disciplines need different WTP (Ways of Thinking and Practising). The final part considers the introduction of management education concepts at early stages of the educational process.

In Chapter Six, I turn to the concept of the learning environment. I explore the characteristics of learning environments in general, and of particular learning environments such as lectures and simulations. I also look at what have recently been described in the literature as ‘powerful learning environments’ (Merriënboer and Paas, 2003). Additionally, I explore how the literature has described students’ approaches to, and their views about, these learning environments. These topics are important because they involve concepts directly linked to that of the PFN model.

Finally, in Chapter Seven, I present the theoretical literature about the concept of the PFN model. The literature is scarce; I could retrieve only four relevant theoretical works in the English language from academic books, journals and conferences. However it is important to locate the model within a broad perspective of education and learning. My literature review revealed important gaps that need to be considered in order to develop the model. The specific issues on which this research focuses are based on the description and categorisation of the PFN model from the students’ perspective.

## **3 Chapter Three**

### **The Learning Experience**

#### **3.1 Introduction**

The experience of learning has been extensively researched from a variety of perspectives. In this chapter, I will situate my phenomenon of study (the PFN) into a holistic and relational model for the study of the learning experience. This model originated from Mitzel's concepts in the 1960s, and is called the 3 P Model of teaching and learning.

More recently, Prosser and Trigwell (1999) suggested that the model could be seen in a constitutionalist perspective. According to Prosser and Trigwell, in a constitutionalist perspective, knowledge about the following three elements and their relationships is important to understand a learning experience: teachers (and their concepts of, and approaches to, teaching); students (and their concepts of, and approaches to, learning); and the context in which the learning occurs.

Each of these three elements of the model has been discussed extensively in the literature. Before I outline the literature regarding the elements of the model, however, I present a brief description of how the 3 P Model has evolved. I then discuss the many ways that teachers conceptualise and approach the learning experience. After that, I move into the discussion of the research that has looked at students' concepts of, and approaches to, learning and learning environments.

Finally, I delineate how the constitutionalist approach of the 3 P Model of teaching and learning can be adapted to my purposes within this research. A modified version of the model is proposed which is then used to inform the development of my literature review.

### **3.2 Studies on the Learning Experience**

Many factors seem to be important to the understanding of a learning experience, and there are many influential studies that have researched the learning experience. These studies vary immensely in epistemological and methodological perspectives but, in general, they have in common an interest in understanding the teaching-learning process and in enhancing the outcomes of its participants, in particular students, as a result of this experience.

Many of these studies emphasise the influential role of the teacher. These studies assume that, when the teacher is working at his or her best, s/he is able to illuminate the minds of students and inspire them with a real passion for his or her academic field (Popper, 1966). Studies centred on the quality of teaching proclaim, for instance, that teachers should develop good teaching material, be it presentations or class discussion. They should also be rewarded for good teaching delivery (Gibbs, 1996).

Other studies stress students as the major element to be researched in the model. These studies also vary immensely in content and perspectives. Some focus the attention on cognitive skills of students, such as intelligence (Gardner, 1993), perception, and memory (Styles, 2005); others on features such as intentionality and approaches (Marton and Säljö, 1976a; Biggs, 1987).

There is another set of studies which take yet another perspective, calling for research into broader aspects of the learning experience, contending that the relationship between learners and their environment is the special feature that influences student outcomes. This view is especially influenced by the work of Lave and Wenger (1991), who proclaimed that the social relations of newcomers and old timers within communities of practice are responsible for transformation in the way apprentices construct the general idea of what constitutes the practice of the community. One theory which takes this viewpoint is that of Fox (1997), who states that “situated learning theory (SLT) is distinctive because it perceives learning to be a socially relational rather than a mentalist process” (p. 727). I will explore SLT in greater detail later in Chapter Four.

Although Anderson *et al.* (2000) have contended that both individual and social perspectives on learning are needed, my purpose in this research is to examine the learning experience from a holistic and situative perspective. I am using the term ‘holistic stance’ to denote the attention to and the integration of issues such as subject matter, learners, teachers, technology (Spector, 2000), and the identification and analysis of “discontinuities between different phases and settings for learning” (Goodyear, 2000). The situative stance concerns the attention to the relationship between teachers, students, their learning environment, and their context, acknowledging that these relationships both affect how people learn, and are a source of learning in themselves (Reynolds, 1999). As far back as 1987, Ramsden recognised the need for attention to this relationship, arguing that in a relational perspective we should consider, for example, the links between the improvement of the professional practice of teaching and research into student learning (Ramsden, 1987).

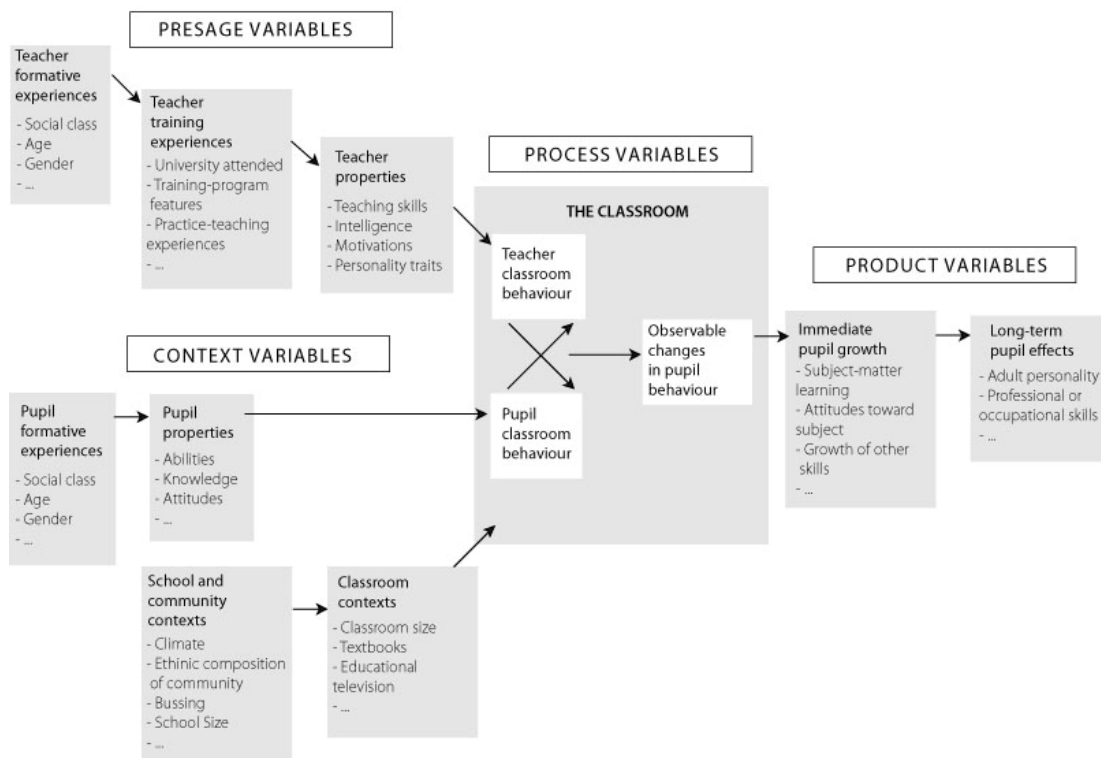
Because my declared aim is to locate my study within a holistic theoretical framework of educational research, my starting point in the research was a model of looking at the learning experience called the 3 P Model of Teaching and Learning. This model evolved from Mitzel's concepts in the 1960's. In the last 40 years or so it has been adapted to show the relationships between the elements of a learning experience. Nevertheless, before I explain the version of the model that I employ to develop my work, I offer some comments on how the model has been developed in the literature.

### **3.3 The 3 P Model of Teaching and Learning**

The concepts of teaching and learning as a 3 P (Presage – Process – Product) model were first elaborated by Dunkin and Biddle (1974). Dunkin and Biddle's model suggests that, within an educational organisation, a *teaching situation* can be seen as a configuration of 13 classes of variables that account for differences in performance in the classroom (see Figure 4). To make these variables manageable, Dunkin and Biddle reduced the variables to four larger classes and treated them as 'regions'. They called these classes of variables: "*presage, context, process, and product* variables for research on teaching" (p. 39; emphases in original).

*Presage variables* "concern the characteristics of teachers that may be examined for their effects on the teaching process" (p.39). They cite as causative factors of teaching effectiveness the *formative experiences* of teachers, the *teacher-training experiences*, and such other *teacher properties* as teaching skills, intelligence, motivation, and personality traits.

**Figure 4 – A Model for the Study of Classroom Teaching**



**Source: Dunkin and Biddle (1974: 38)**

*Context variables* “concern the conditions to which the teacher must adjust – characteristics of the environment about which teachers, school administrators, and teacher-educators can do very little” (p. 41). In this sense, pupil formative experiences, pupil properties, and school and community contingencies constitute a classroom context.

*Process variables* “concern the actual activities of classroom teaching – what teachers and pupils do in the classroom” (p. 44). The authors here take a very strong behavioural bias, stating that the events may be judged as components of teaching-process variables in instances where they are *observable*, and that process variables



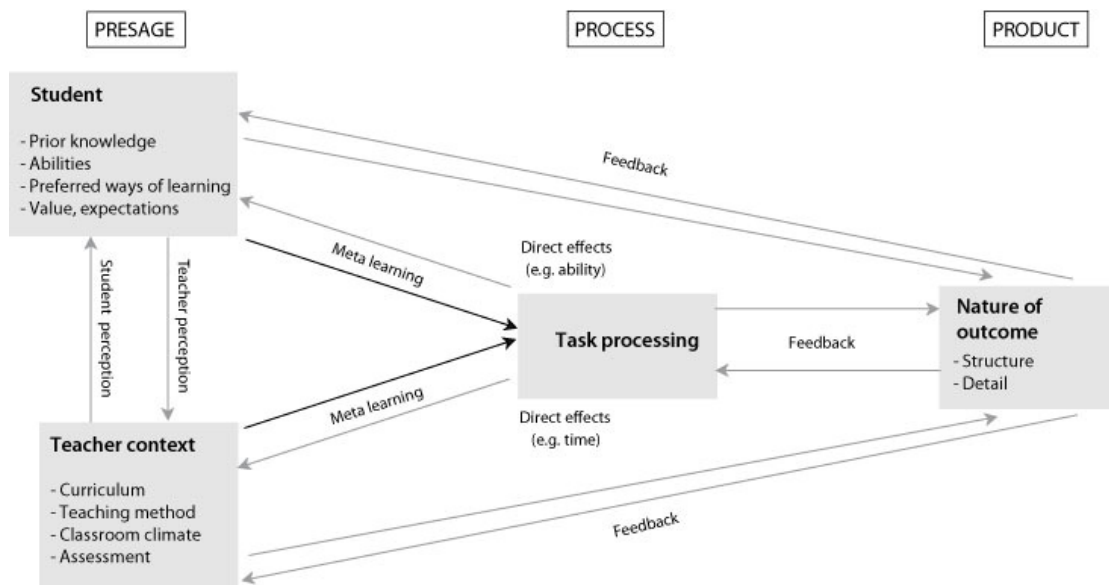
can be divided into two types: teacher classroom behaviour and pupil classroom behaviour.

Finally, *product variables* “concern the outcomes of teaching – those changes that come about in pupils as a result of their involvement in classroom activities with teachers and other pupils” (p. 46). In this respect, the authors considered that teaching had an effect both on immediate pupil growth and on long-term pupil growth.

The point of reference in Dunkin and Biddle’s work was the teacher, and the focus of analysis was the classroom. Dunkin and Biddle’s model was clearly produced to offer teachers in formal education the concepts to look at their practice and provide them with a framework to affect students’ behaviour. In this sense, for instance, context was defined minimally and in an authoritative connotation. The model also gives us an idea of causality that is too simplistic and treats the outcomes of learning as fundamentally a teaching result.

Although the 3 P Model’s contribution to this way of seeing the learning experience was initially felt in basic education, in the last forty years the model has been adapted and researchers such as, for instance, Biggs (1978; 1987; 1993; 2003), Prosser *et al.* (1994), Trigwell and Prosser (1996) and Prosser and Trigwell (1999), have explicitly worked on the enhancement of the 3 P Model and researched its use in secondary and higher education. The representation of the model itself has evolved into different formats, stressed different elements, and raised different questions for debate. Biggs’ 1993 version of the model, for instance, was as in the figure below:

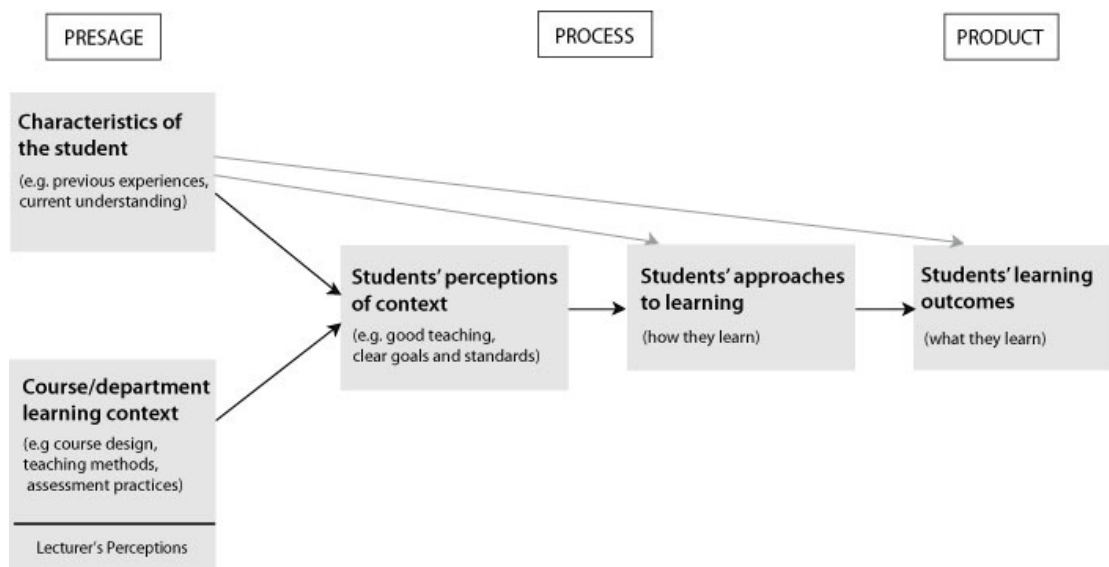
**Figure 5 – The 3 P Model of Classroom Learning**



Source: Biggs (1993)

While Prosser *et al.* (1994: 306) represent the model as in the following figure:

**Figure 6 – Model of Teaching and Learning**



Source: Prosser *et al.* (1994)

In these versions of the model, there are two ever-present figures: teachers and students. Through interaction (represented by learning activities or tasks), these two elements constitute the process phase, which is expected to affect students and produce an outcome represented by a development in what students can demonstrate they have learned from the experience. It is implicitly expected that students acquire some new content or skills which would not be possible without taking part in the experience.

Nonetheless, different elements are stressed within each model. In Prosser *et al.*'s (1994) view, for example, course and department context are prominent in the model; teachers' perceptions arose as the potential element to explain the learning process; and students (perceptions and approaches) gain prominence in the analysis. However, as the model stands, there is still a linear succession that it is not easy to demonstrate empirically. Before I show how the model came to be constructed from a more integrated viewpoint, I shall to review some studies that have approached the learning experience both from a teacher's perspective and from that of a student.

### **3.4 Studies on Teachers' Approaches to Teaching**

For a long time the literature has recognised that teachers differ in their ways of teaching, and that this influences students' approach to learning (Dewey, 1910, 1991). However, as is made explicit in the 3 P Model of teaching and learning, there are many factors that could explain teaching effectiveness. Some of these factors are teacher training experiences, teaching skills, intelligence, motivation and personality traits (Dunkin and Biddle, 1974).

Another group of studies concentrates on the selection and improvement of strategies and teaching methods, believing that the way that content is communicated to students should be based on the nature of the expected learning outcome, the nature of the student group, and varied practical constraints such as, for instance, the size of a class (Weston and Cranton, 1986). Studies of this type focus on, for example, how to improve lectures (Bligh, 1971, 2000). Some research has also shown that teachers' beliefs about teaching and learning and their approaches to teaching are the main characteristics that affect their teaching practices. So, teachers' conceptions about teaching are important.

Phenomenographic studies have shown that teachers' conceptions of teaching may be described in a limited variety of categories. Trigwell *et al.* (1994), for example, identified five qualitatively different ways in which teachers approached teaching. These were as follows:

a) a teacher-focused strategy with the intention of transmitting information to students; with a focus on facts and skills, "but not on the relationship between the facts or the skills" (p. 79);

b) a teacher-focused strategy with the intention that students acquire the concepts of the discipline. It differs from approach (a) in that students are expected not only to recall facts and solve problems but also "to be able to relate concepts and solve transfer problems" (p. 79);

c) a teacher/student interaction strategy with the intention that students acquire the concepts of the discipline. The distinctive feature of this approach is the active engagement of students in the teaching-learning process;

d) a student-focused strategy aimed at students developing their conceptions. In this approach, students are expected to be active because they have to “construct their knowledge in order to develop their conceptions” (p. 81);

e) finally, a student-focused strategy aimed at students changing their conceptions, in which teachers acknowledge that students themselves have to re-construct their knowledge in order to produce a new world view or conception, and that they cannot transmit a new world view or conception to the students.

Trigwell *et al.*'s categorisation is congruent with other works (Dall'Alba, 1991; Martin and Balla, 1991; Samuelowicz and Bain, 1992, 2001; Kember, 1997; Åkerlind, 2003a) which also demonstrate that the teacher's approach to teaching could be categorised in an array of ways, ranging from a conception in which teachers are considered information transmitters to a conception in which teachers are perceived as agents of changing in students' conceptions.

Kember (1997), for example, describes five categories of conceptions of teaching: (a) imparting information; (b) transmitting structured knowledge; (c) student-teacher interaction; (d) facilitating understanding; and (e) conceptual change/intellectual development. These five categories could be arranged into two poles: teacher centred/content-oriented; and a student centred/learning-oriented. His main conclusion

is that quality changes in teaching “are only likely to be brought about by changes in the beliefs about teaching of faculty” (p. 273).

Samuelowicz and Bain (2001) follow the same line. The categories in their work are expressed in the following way: (a) imparting information; (b) transmitting structural knowledge; (c) providing and facilitating understanding; (d) helping students develop expertise; (e) preventing misunderstandings; (f) negotiating meaning; and (g) encouraging knowledge creation.

Åkerlind (2003a) also found a variation in teachers’ conception of teaching that she categorised in four types: (a) teacher transmission; (b) teacher-student relations; (c) student engagement; and (d) student learning focused experience. These categories were formed to show how the experience of being an academic could be analysed jointly with the experience of developing as an academic. Development as an academic was categorised into three types: (a) a teacher’s comfort with teaching, in terms of feeling more confident as a teacher or teaching becoming less effortful; (b) a teacher’s knowledge and skills, in terms of expanding content knowledge and teaching materials, and/or an expanding repertoire of teaching strategies; and (c) learning outcomes for students, in terms of improving students’ learning and development. The overall conclusion in Åkerlind’s research is that the two sets could be combined to form a hierarchical array of meaning, ranging from a teacher transmission focused understanding of teaching combined with a teacher comfort to a student learning focused understanding of teaching combined with a student learning focused understanding of teaching development.

In short, teachers' conceptions of and approaches to teaching vary; when looking to understand the outcomes of learning it is key to consider relationship of this variation jointly with the variation in students' conceptions and approach to learning. But what are students' conceptions of and approaches to learning?

### **3.5 Studies on Students' Approaches to Learning**

Studies of the learning experience centred on the learner may take two broadly different perspectives: a cognitive or a social perspective. Studies that examine the learning experience from a cognitive perspective depart from the premise that cognitive features such as intelligence or memory are the major factors that influence student learning. According to Prosser and Trigwell (1999), in studies taken a cognitive perspective, "sensory data is thought to come in to the student from the outside, be stored for a short time, processed internally and then put in longer term storage and/or an output is generated to the outside world" (p. 13). Studies on intelligence, memory and perception are among those favoured in cognitive approaches.

In contrast, studies that take a social perspective towards studying the learning experience acknowledge the relevance of elements of the context and consider them to have a major influence in a learning situation. In these studies, learning is viewed as constructed on social phenomena. One expression of this view is social constructivism. According to this perspective, "knowledge is thought to develop internally, but in a process driven by social interaction with the outside world" (Prosser and Trigwell, 1999: 13). Hereafter, this will be the prevalent type of literature in this review.

Some studies that consider students' experience to be a prominent element in the learning experience may take a developmental route to understand the learning experience. Studies of this nature try to map students' conceptions in different moments to understand how the learning experience influenced the learner's development.

One influential study of this type is Perry's (1970) research of "evolution in students' interpretation" of their academic period of life. According to Perry's conclusions, the dynamic of students' development proceeds from a 'concrete dualism' to a 'committed relativism'. The development could be divided into four major stages which he listed as *basic dualism*, *complex dualism*, *relativism* and *commitment in relativism*. From Perry's study, one may conclude that students develop as they experience the academy, and that development may be considered more as a commitment in the face of uncertainty than as a positioning in terms of what is right or wrong. Developmental studies of this type are also very important to understand the influence which a particular course of studies has on the formation of students' attitudes.

While developmental studies try to map the evolution of students' conceptions of their experience, another set of studies has called attention to students' intentionality in the learning experience, or students' approaches to learning. The motto here is that what students learn in a learning situation is influenced by what and how they intend to learn; educational outcomes are influenced by what the students are trying to accomplish in that situation. The first studies of this type were conducted by Marton and Säljö (1976a) and by Biggs (1978). In this view, learning is seen "as coming to



experience the world, or aspects of the world, in particular ways” (Marton and Booth, 1997: VII). In such types of studies, researchers concentrate on trying to understand learning by trying to map participants’ understanding or conceptions of the world (Marton and Säljö, 1976a; 1976b) and their approaches to these situations.

As an outcome of these studies, Marton and Säljö proposed two levels of how students process learning. They called these levels *surface* and *deep* approaches to learning. Students adopting a surface approach to learning relate to the content of the subject in order to fulfil external requirements, e.g., reproduce facts in an exam. A student adopting this type of approach concentrates his or her attention to text itself, and is therefore trying to reproduce the text, “which means that he is more or less forced to keep to a rote-learning strategy” (Marton & Säljö, 1976a: 7).

On the other hand, students adopting a deep approach to learning try to grasp the meaning of the content in order to satisfy an internal requirement. As Marton & Säljö (1976a: 7-8) put it,

The student is directed towards the intentional content of the learning material (what is signified), i.e., he is directed towards comprehending what the author wants to say about, for instance, a certain scientific problem or principle.

Marton *et al.* (1996) also studied what they identified as a paradoxical understanding of Asian students in relation to the concepts of surface and deep approach to learning. In general, Westerners believe that educational systems in Asian countries “are

directed to memorisation” (p. 70), despite the fact that Asian students demonstrate high achievement in their studies. Nevertheless, Marton *et al.*’s results of the research identified “a new way of seeing the relationship between memorisation and understanding” (p. 82). The main conclusion stated that a distinction had been found “‘within’ memorisation, rather than ‘between’ memorisation and understanding” (p. 82). In summary, Marton *et al.* concluded that the traditional Asian practice of ‘cramming’ or memorisation has the purpose of deepening and developing understanding.

Similarly, Biggs (1978) considered that the orientation of students to learning may be constructed in two dimensions: approach and strategy. Approach refers to why students want to approach learning (the motive); either by a surface approach, by a deep approach, or by an achievement approach. Strategy refers to how students approach the task; either by a surface strategy or by a deep strategy. More recently, Biggs (2003) labelled these strategies as “academic oriented” and “non-academic oriented”.

Academic oriented students who are interested in their studies have “clear academic or career plans” (p. 3) and attribute importance to what is learned. They come to the classroom with “sound, relevant background knowledge and possibly some question” (p. 3) they want to be answered.

Non-academic oriented students are less committed to studying, are not driven by genuine curiosity in a particular field of study, and may not expect to excel in a profession. All they may expect is a degree to give them a pass to an elite occupation.

They come to class to collect ‘bricks’, “record enough of these bricks, [and] remember them on cue, [to] keep out of trouble come exam time” (p. 3).

Trigwell *et al.*'s (1999) study also suggests that there is a relationship between a teacher's approach to teaching and the approaches to learning of the students in the class of that teacher. The study shows that

... in the classes where teachers describe their approach to teaching as having a focus on what they do and on transmitting knowledge, students are more likely to report that they adopt a surface approach to the learning of that subject. Conversely,, but less strongly, in the classes where students report adopting significantly deeper approaches to learning, teaching staff report adopting approaches to teaching that are more oriented towards students and to changing the students conceptions (p. 57).

Nevertheless, some authors have argued that the practical use of the concepts of a surface/deep approach to learning is complex. As put by Askew and Carnell (1998), “whether or not we take a surface or deep approach may depend on a number of factors” (p. 36) such as differences in our expectations, demands of the situation, time pressure, or simply a matter of choice. Orientation to learning is situational and contingent. This ‘situatedness’ of learning should be explored in a learning experience.

This issue of ‘situatedness’ is important to stress here because the majority of research about teachers’ and students’ concepts of and approaches to learning was conducted in similar structures of teaching-learning situations. Although these traditional structures of learning environments, which will be explored in more detail in Chapter Six, exert a huge influence on the role of both teachers and students in the learning experience (Hounsell *et al.* 2005), they are not given much weight in the studies I have described, because they are taken for granted the majority of the time.

### **3.6 The Constitutionalist Perspective of the 3 P Model**

The 3 P Model of teaching and learning was reconfigured by Prosser and Trigwell (1996, 1999) in a perspective they called constitutionalist. A constitutionalist model of student learning considers that “meaning is constituted through an internal relationship between the individual and the world” (p. 12). A constitutionalist epistemology considers also that it is not adequate to state a separation between individual and world, as “the individual and the world are internally related through the individuals’ awareness of the world” (p. 13). They continue,

For analytical reasons we discuss perceptions, approaches and outcomes as separate entities, but they should be considered to be simultaneously present in the students’ awareness and are not independently constituted (p. 13).

Therefore,

... in any act of learning and teaching, prior experiences, perceptions, approaches and outcomes are simultaneously present ... [although, in the learning experience] ... one or other aspects may be more to the foreground of awareness, while other aspects may be more to the background (p.14).

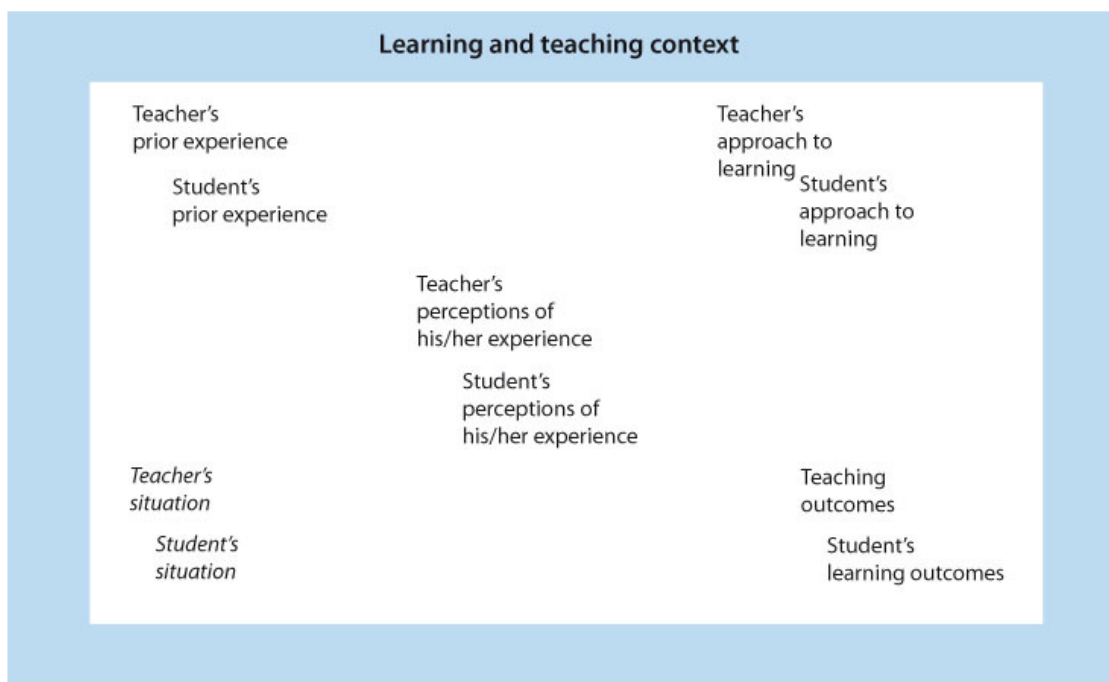
Moreover, nothing can be done about the prior experience of both students and teachers: they are a given in the learning experience. A consequence of this point of view is that in the constitutionalist perspective, the presage-process-product sequence of the 3 P Model of teaching and learning does not describe “a chain of causal processes extended over time [as Dunkin and Biddle and Biggs’ model suggest] but an analysis of individuals’ awareness of the learning and teaching acts in which they are engaged” (p. 14).

In practical terms, continue Prosser and Trigwell, “when a student enters a learning context ... the interaction between the student and this context constitutes a unique learning situation for this student” (p. 16), and this situation is different from any other situation that could possibly exist. Thus, two students having the same lecture, for example, experience two different situations and each has “a unique perception of his or her situation” (p. 17). This situation is similar to that of the teacher. Teachers also enter teaching and learning contexts with prior conceptions of teaching and learning, and prior experiences of teaching and learning.

Prosser and Trigwell’s proposition then, is that the 3 P Model of Teaching and Learning should be restructured to show this interconnected relationship between all

elements in the learning experience. Although Prosser and Trigwell's focus and discussion concern higher education, their interpretation is valid for any institutional learning experience. This new structure of the 3 P Model of teaching and learning could be presented as in Figure 7, below.

**Figure 7 - A Constitutionalist Model of Teaching and Learning**



**Source: Adapted from Prosser and Trigwell, 1999, 17-21**

In this research I use Prosser and Trigwell's constitutionalist perspective; however, I modify their model slightly. Two concepts emerge as important and distinctive in my modified model: the concept of context and the concept of learning environment.

These terms are sometimes mixed or used interchangeably in the literature, depending on the epistemological basis of the study (Engestrom and Cole, 1997). However, the concept of context in my research applies to the implicit situation in which a learning experience occurs. People in general do not debate the contents of the context: they accept it. In contrast, the learning environment concept is more concrete. It represents

the actual meeting of learners and teachers in the learning situation. To make clear my understanding of these two terms and how it differs from Prosser and Trigwell's model, I will clarify the meaning they have within my work in the discussion below. It should be noted that my model differs from Prosser and Trigwell's more in emphasis than in essence.

### **3.7 The 3 P Model of Teaching and Learning in This Research.**

The first and most basic difference between my model and that of Prosser and Trigwell is that I am interested in researching students' approach to a specific form of learning environment in a specific subject, and not students' approach to learning in general. My argument is that we need to understand not only how students approach learning in general, but also, and more importantly, how students approach specific learning environments in which they are immersed: in the case of this research, the PFN model. This need to situate research into specific contexts has been emphasised in recent studies such as that of Lucas (2001), Hounsell *et al.* (2005) and in Achtenhagen's (2000) projects.

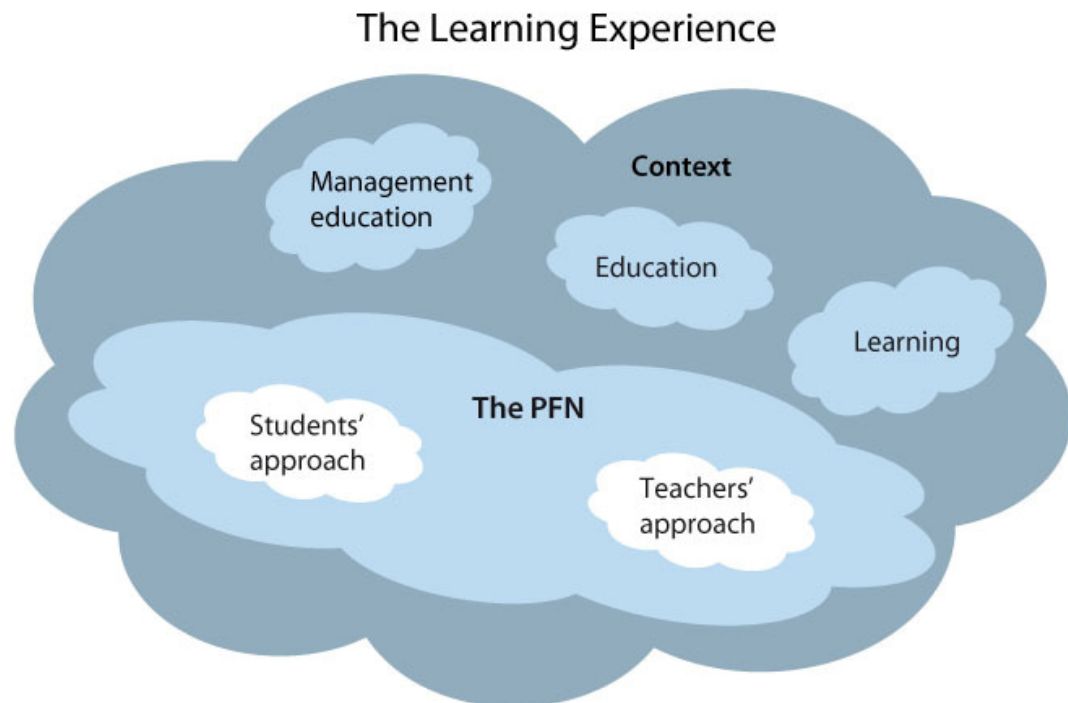
Hounsell *et al.*'s (2005) research aimed at enhancing teaching-learning environments in undergraduate courses pointed out the necessity of constructing *ways of thinking and practising* (WTP) in the subjects. According to the authors, the WTP concept "seeks to capture the richness, depth and breadth of what students ... could learn through engagement with a given discipline or subject" (Hounsell *et al.*, 2005: 5). This is especially true in case of professional education.

Achtenhagen's (2000) research, for example, acknowledges that the business environments of enterprises and commercial schools are becoming increasingly complex. Achtenhagen's conclusion is that we need complex teaching-learning environments in order to be capable of "strengthening the role of formal education and training" (p. 173). Consequently, we need new models to represent these new learning environments; we also need the recognition that linear and piecemeal curricula, and the corresponding teaching-learning processes associated with them, "do not support effective and responsible teaching and learning" (p.162).

Thus, the constitutionalist version of the 3 P Model of Teaching and Learning in this research will be adapted to show the peculiarities of the specific learning environment that it is trying to resemble. This is shown in figure 8 below:



**Figure 8 –The Constitutionalist Approach to the 3 P Model of Teaching and Learning in this Research**



Firstly, I have framed the constituents of the model into clouds to emphasise the fluid and indeterminist nature of the set. Secondly, no element of the model is isolated; teachers do not exist without students, and to talk about students without teachers is meaningless in an institutionalised learning experience.

In the model, I make a differentiation between the concept of ‘context of teaching and learning’ and the concept of ‘learning environment’. I depart from Prosser and Trigwell’s definition of context as “‘the learning world’ that does not include the student ... [whilst] a situation ... is constituted when a student enters the context” (p. 18). Context will refer to features that set the scene to the learning experience: it is, in Kuhn’s (1962) terms, ‘paradigms’ in use. Learners and teachers usually take their

context for granted. Thus, a context such as a university or a college, for instance, itself contributes large amounts of symbolism about education and learning, but only when students and teachers get together is a learning situation formed. Therefore a learning situation is unique and “is always experienced with a sociospatialtemporal location” (Marton and Booth, 1997: 82). In this sense, learning environments here will refer to the actual space in which the learning experience takes place. When students and teachers ‘enter’ the learning environment, they constitute the learning and teaching situation.

To explore the concept of the context of a learning experience using this model, I will review three concepts of the learning and teaching context that I consider are fundamental for understanding a learning situation within this research. These concepts are those of education, of learning, and of management education (see Figure 8, above). The first two are explored in the next chapter, Chapter Four. The concept of management education is explored in a separate chapter, Chapter Five. These concepts are considered to be basic because, when students and their teacher(s) meet in a learning situation, these concepts are frequently taken for granted, although they set out most of the roles and expectations that each element of the model will have in the learning experience.

Later, in Chapter Six, I will move on to explore how the literature has treated the concept of learning environment, especially in management education, and how students have approached some of these learning environments.

### 3.8 Summary of Chapter Three

In this chapter, I defined the learning experience as the meeting of three elements: a learner, a teacher and a context. Much literature has been written with the aim of enhancing the learning experience, looking primarily at how learning outcomes can be improved.

The model I found most useful to investigate and use in my research was the 3 P Model of Teaching and Learning. This model has been used by several authors, and I found Prosser and Trigwell's (1999) constitutionalist perspective fitted in with the aims of this research.

However, my research deals not with students' general approaches to learning in any subject, but with students' approaches to a specific learning environment, the PFN. This sort of approach to research students' conceptions of learning is supported by recent research on the experience of students in higher education, for example, by Hounsell *et al.* (2005), who claim that we need to understand students' experience in respect to specific academic disciplines.

Moreover, I identified four other key concepts for my study, which complement its focus on understanding students' descriptions of the learning experience. Two of them are broad concepts that influence any learning experience in society: that of education and that of learning. These concepts are explored in the next chapter. Another is the concept of management education, which is of particular importance in this research. The concept of management education will be approached in Chapter Five. Finally, I

will be interested in the concept of learning environments, and in how the literature describes students' experience of them. Chapter Six will focus on this theme.

## **4 Chapter Four**

### **The Learning Context: Education and Learning**

#### **4.1 Introduction**

In the previous chapter, a learning experience was defined, for the purposes of this research, as the meeting of three elements: a learner, a teacher and a context. In this chapter, I will explore two concepts of the learning context which I consider basic to the understanding of a learning experience: that of education and that of learning.

Although the context of a learning experience may contain many other elements; for example culture, educational policies and technological infrastructure; the concepts of education and learning are prominent in this research because they are the basic ideas necessary to form a configuration of the learning experience as defined in this research. They may be related to what Kuhn (1962) called a ‘paradigm’, that is, a body of beliefs that some particular “community acknowledges for a time as supplying the foundation for its further practice” (p. 10). The values of the paradigm are generally taken for granted for those operating in the community. This is also true in a learning situation.

The basic and fundamental question that I am trying to address in this chapter is “why do people enter into an institutionalised learning experience?” An institutionalised

learning experience is considered here in contrast to what Burgoyne and Hodgson (1983) called ‘natural learning’ or “learning that happens outside of teaching/training situations deliberately contrived to bring about learning” (p. 391). People normally take for granted that education is good, but they are not always so clear about what it is good for. Therefore, the discussion of the concept of education within this chapter will focus on the purpose of education.

On the other hand, the discussion of the concept of learning will stress learning as an institutionalised process. I argue, contrary to Lave and Wenger (1991), the possibility of schooling as a form of insertion of the learner into a community of practice.

Although Fox (1997a) states that what schooling does produce is a “community of students”, in the discussion of management education as professional education it is essential that one considers how management education could approach the insertion of students into their community of practice. This is also important in the PFN model.

At the end of this chapter, I conclude that education and learning in our Western society is still predominantly authoritative and product-oriented, and that educational models such as the PFN may face a contradictory situation in which they find it difficult to deliver what they advocate.

## **4.2 The Concept of Education**

Every society has developed a means of acculturating the new generation. The rituals and characteristics of this process have many facets: the ones on which I wish to focus here are what can be labelled ‘education’. Education is a broad process and may be seen as beginning as soon as we arrive in the world; continuing throughout our

lifetime, and occurring in any location. However, the term education will be used here in the sense of ‘formal education’ or institutionalised education: schooling, or education that is delivered through formal organisations such as schools, colleges and universities. In the early years, this type of education is mandatory in our western society. Therefore, how this mandatory commodity is delivered has enormous implications for individuals and their lives, and for the interplay of individuals in society.

There are different and opposing views on how education should be understood and delivered to society. Dewey (1938), for example, identified two opposing views on educational philosophy. On the one hand, there are those who profess the view that education is “development from within [...] it is based on natural endowments” (p. 17) and should therefore be developed taking the learner’s abilities into consideration. Others claim that education is “formation from outside”, that is, education is “a process of overcoming natural inclination and substituting in its place habits acquired under external pressure” (p. 17). Dewey (1938) stated that reformists of education had long claimed that “traditional education” was imposition of “adult standards, subject-matter and methods upon those who are only growing slowly toward maturity” (p. 18-19). In this view, the aim of traditional education was seen as to transmit ‘bodies of information’ representing past knowledge to the new generation.

Freire (1972) criticised ‘traditional education’, naming it ‘banking education’ and referred to this kind of education not only as a commodity in a capitalist society, but also as an uneven relationship between students as ‘depositories’ and teachers as ‘depositors’. Moreover, instead of communication, the relationship is made up of

‘deposits’ which the students patiently receive, memorise, and repeat. Accordingly, schools turn out to be “institutions for indoctrination and for imposing obedience” (Chomsky, 2000: 16). What was needed, according to Freire’s point of view, was a “problem-posed” mode of education in which educating “involve[d] a constant unveiling of reality” (p. 54). In Freire’s (1972) view, education should make possible the ‘emergence of consciousness’ and liberate students for a ‘critical intervention’ in reality, that is, a new construction of reality from the students’ experiences.

Although, since then, the problem-based and critical model of education has gained a place in the curriculum, it still battles with other privileged views of education. Some of these views propose that education should contribute to social development, promoting ‘rationality’ (Siegel, 1988; Paul, 1990; Lipman, 1991), or to how students learn to use the basic tools of logic – premises, inferences and conclusions – to achieve what Moshman (1999) called ‘metalogical understanding’. Some other authors, such as Barnett (1997), also add that education should help students to be critical, in the sense that students need not only to know about the world but also to contribute to the development of the world. Critical persons are those who are able not only to think critically, but also to act and to engage with knowledge accordingly.

On the other hand, critics of a rational view of education have noted for a long time that, in practice, this stream of thought in education has reduced knowledge acquisition or construction to innumerable sets of disconnected parts, making the leading educational vocabulary in our society constituted by terms like schools, curricula, grades, subjects, courses, class, lecture, lessons, exercises and assignments (Ackoff, 1974). This fragmented process of education that has been called ‘schooling’



is “a system of quantification and qualification [that] has been developed to reflect [an] atomistic concept of education: examination grades, course grades and credits, grade-points averages, diplomas, and degrees” (Ackoff, 1974: 75). Institutionalised education, then, turns out to be a huge puzzle, multifaceted and fragmented. It is neither treated as a whole nor is it appropriately connected to the actual world of the learner. What, then, turns out to be the value of education?

Tooley (2000) suggested that, depending on its goal, the value of the concept of education in our western society nowadays can be condensed into two ways: firstly, education as intrinsically worthwhile; and secondly, education as a tool.

The view of education as intrinsically worthwhile (Bassey, 1999) is as old as mankind and “it was immensely popular in the 1960s and 1970s, and even a little in the 1980s” (Tooley, 2000: 29). Aristotle (330 BC) referred to this type of education when he mentioned that “all men, by nature, desire to know” (Ackrill, 1986: 255). Popper also reiterated this idea when he wrote that teachers should encourage each student to have passion for his/her subject instead of a commitment only for his/her personal career (Popper, 1966).

In a similar vein, Wenger (1998) stated that education,

in its deepest sense and at whatever age it takes place, concerns the opening of identities – exploring new ways of being that lie beyond our current state ...[and open(s)] ... new dimensions for the negotiation of

the self. It places students on an outbound trajectory toward a broad field of possible identities (p. 263).

Adopting a similar standpoint, but from a developmental perspective, Knowles (1980) proposed that, in adulthood, *maturation* is the goal of education. Knowles understands maturation as a process in which the adult is trying to actualise him- or herself in a certain way (independence, activity, objectivity, enlightenment, responsibility, etc). Thus, the aims of education and the structure, process and controls of learning must be very different. In adulthood, learning tends to be more specialised in directions that are negotiated both by the learner's interest and the possibilities available in the situation.

This perspective, known as andragogy, assumes that adult learners have a set of characteristics which distinguish them as a learning group and therefore means that they need a completely different set of requirements to be fulfilled. Some of the special characteristics of adult learners are: firstly, adults are self-motivated to learn, and their motives arise from their experiences and needs; secondly, adults' motives and needs are life-centred, which means that each person will bring a different set of motives and needs to the learning experience; thirdly, adults do not expect to be guided through the process without putting effort in themselves, and generally assume the responsibility for the course of their studies; and finally, adulthood is an ample spectrum that allows for a large number of different characteristics within it.

To attend to the motivations and needs of adults' orientation to learning, andragogy proposes a new set of parameters to be applied to educational practices. Firstly,

learning activities should depart from adults' experience and interests. Secondly, life situations, and not subjects, should be the units for organising the learning content. Thirdly, the core methodology of adult education should be the analysis of experience. Finally, the role of the teacher changes from a transmitter of knowledge to a partner in the process of mutual inquiry (Knowles, 2005).

There are very delicate questions here, however. One of these questions refers, for instance, to the fact that the concept of maturation as put by Knowles, or developmental progression as put by Mezirow (1991), is not as simple as it seems. Mezirow points out that, firstly, there is little consensus of what constitutes developmental progress, and secondly, developmental progression in adulthood does not follow clearly defined steps. Despite these comments, Mezirow proposed that individual perspective transformation, that is, the transformation that adults undergo towards a meaning perspective may be presented in ten phases. These phases are:

- A disorienting dilemma
- Self-examination with feelings of guilt or shame
- A critical assessment of epistemic, sociocultural, or psychic assumptions
- Recognition that one's discontent and the process of transformation are shared and that others have negotiated a similar change
- Exploration of options for new roles, relationships and actions
- Planning of a course of action

- Acquisition of knowledge and skills for implementing one's plans
- Provisional trying of new roles
- Building of competence and self-confidence in new roles and relationships; and
- A reintegration into one's life on the basis of conditions dictated by one's new perspective (Mezirow, 1991: 168-9).

In this sense, Mezirow's concept of development in adulthood refers to a movement from a stage of disorientation to a deeply progressive, meaningful perspective; from feelings of guilt and shame to an integrated view of the self. These movements lead the person to a "more inclusive, discriminating, integrative, and permeable (open)" perspective (p. 193). Another conclusion depicted within Mezirow's work is that, when applied to the world of work, this type of transformation involves a sequence of learning activities which lead employees to become critically reflective, and help employers to "develop creative strategies for dealing with change" (p. 194).

This view on education outlined so far; that education is intrinsically worthwhile; is essentially 'inside-out', that is, it sees education as emerging from the individual. Thus, the basic contribution society may provide to improve such education is the provision of the adequate conditions for its emergence. According to Tooley (2000), this kind of education has gone out of fashion nowadays.

From an opposing viewpoint, education may be seen as an instrumental good; as a tool. From this viewpoint, education is thought to be important because it can move individuals and society towards a desirable end. This end could be stated in many different forms, depending on the assumptions of the theoretical models. In terms of individual perspective, some of these ends could be stated as the acquisition of knowledge, preparation for adult life in a way that aims to create the ability to perform a profession, and competence in a specific practice of a community (Wenger, 1998).

From a social perspective, educational goals could be stated as the promotion of certain desirable ends, for instance, the promotion of democracy, social cohesion, equality of opportunity, reduction of crime, or economic growth (Bereiter, 2002b). Research on the correlation between educational achievement and social indicators - for instance, the correlation between degree achieved and charitable giving - found that 66% of those with some college education and 77% of those with at least a bachelor's degree performed volunteer work (IHEP, 1998).

Thus, in general, it is normally taken for granted that education is very important and directly related, in individual terms, to success in adult life, whether the definition of success be measured by the amount of money one earns in a profession, the height one reaches in an organisational hierarchy, or simply the prestige one gains in a social group. These links lead to the general belief that education “plays an important role as a selector, sorter and allocator of the individuals’ further occupational career ... [and] ... functions as a legitimating theory of knowledge, defining certain types of knowledge as authoritative” (Amdam *et al.*, 2003: 21).

Nevertheless, the game of achieving a top-class educational degree and becoming part of an elite may result in dangerous consequences and induce students to become involved in scandals and acts of corruption, as shown in a report of the British Broadcasting Corporation (BBC) in which “more than eighteen hundred South Korean school students [were] suspected of taking part in an organised cheating operation during university entrance exams” (<http://www.bbc.co.uk/worldservice/>).

This state of affairs is not exclusive to Korea. Besides the fight against corruption, UNESCO’s 2000 World Educational Forum recognised that education has many challenges ahead. The transformations which need to take place within education range from the need to offer basic education to all, to the guarantee that the learning needs of all young people and adults are met through equitable access to appropriate learning and life-skills programmes. UNESCO’s view is that we should establish the idea of education as the main power for the development of knowledge in the future, which will guarantee the creation of commitment and skills needed to address a sustainable development (<http://www.portal.unesco.org/>).

In order to achieve this desirable state of affairs, in which education will be seen as an unquestionable good for all, we must, among other things, better understand the concept of learning and of how people learn.

### **4.3 The Concept of Learning**

As with the concept of education, the complex and conflicted positions when referring to the concept of learning are widely recognised in the literature. For example, Lars-Owe (1997) stated that learning is a phenomenon with many sides. He recognises that

not only are there many things to learn, but also that learning can be achieved by many processes and generate many different outcomes. However, Tennyson (1997) complains that the many-sided aspect of learning and the many theories about learning have thus far only offered explanations for limited situations.

Despite the disparate contributions in the area of learning, some theorists have tried to classify the theories in the field. Knowles' (2005) review of learning theories, for example, agrees on the difficulty of setting up the many and incongruent categories of theories into a pattern. Knowles analysed the theories into two groups based on the differentiation of world views made by Reese and Overton (1970): theories based on an elemental and instrumental mode of viewing the world (mechanistic model), and theories based on a holistic world view (organismic model). According to Knowles, the works of Thorndike (connectionism) and Pavlov (classical conditioning) best exemplify the mechanistic view and establish grounding for the development of the behaviouristic approach in psychology. As examples of organismic models, Knowles cites Dewey's functionalism, Lewin's field theory and Piaget's developmental cognition.

More recently, Burgoyne's (2003) review of the literature on learning has contributed to the debate showing how learning theories relate to the conception of self. Burgoyne identified fourteen different learning theories or schools of thought, and acknowledged the difficulty in organising this diversity, declaring that his division is "somewhat arbitrary ...and... the ordering somewhat personal" (p.5). This required him to put acknowledged theories of learning (the cognitive school, social learning theory, situated learning theory, for instance) and meta-theories or philosophical

orientations (such as post-modernism, activity theory, actor network theory and critical realism) side-by-side. Nevertheless, in summary, his work gives us an idea of the complexity and heterogeneity of the phenomenon and reinforces the argument of the importance of learning theories to foster the individual's growth and societal cohesion.

Many questions may be posed on the concept of learning and its applicability, but firstly researchers need to agree that they are all talking about the same phenomenon when they refer to learning. It follows that, the very first question to be posed is that of the ontological nature of learning: what is learning, anyway? Bateson (1972), for example, states that "the word 'learning' undoubtedly denotes *change* of some kind" (emphasis in original). To say what kind of change it is, he continues, "is a delicate matter" (p. 283).

Does this mean that any change is learning? Water turns into steam when it reaches 100°C. It has changed. Does it imply learning? A boy turns into a man. He has changed. Is this change a learning process? If these changes are learning processes, everything learns, as everything changes. Bigge (1964) argued that we have to make a differentiation, contrasting learning with maturation. The concept of learning "is a change in a living individual which is not heralded by his genetic inheritance. It may be a change in insights, behaviour, perception, or motivation, or a combination of these" (p. 1).

Further questions could be posed, however. Are we talking about the process that makes changes possible, or about a delta change, an amount of change that is there



after the process? Is learning a quantitative or qualitative measure of change? Moreover, is change an observable feature in individuals that have learnt? How can we distinguish between change that is a property of the nature of the thing, and change that was caused by an outside factor? And could 'not changing' be a learning process; for example, when one realises that changing is a dangerous movement, as in a game of hide and seek?

Many positions seem to arise out of this debate on the concept of learning in the literature. In the following section, I will focus on two aspects of the problem: firstly, the consideration that learning can be seen as a process of transformation, and secondly, the importance of context and situation in this process of transformation.

#### **4.4 Process and Context of Learning**

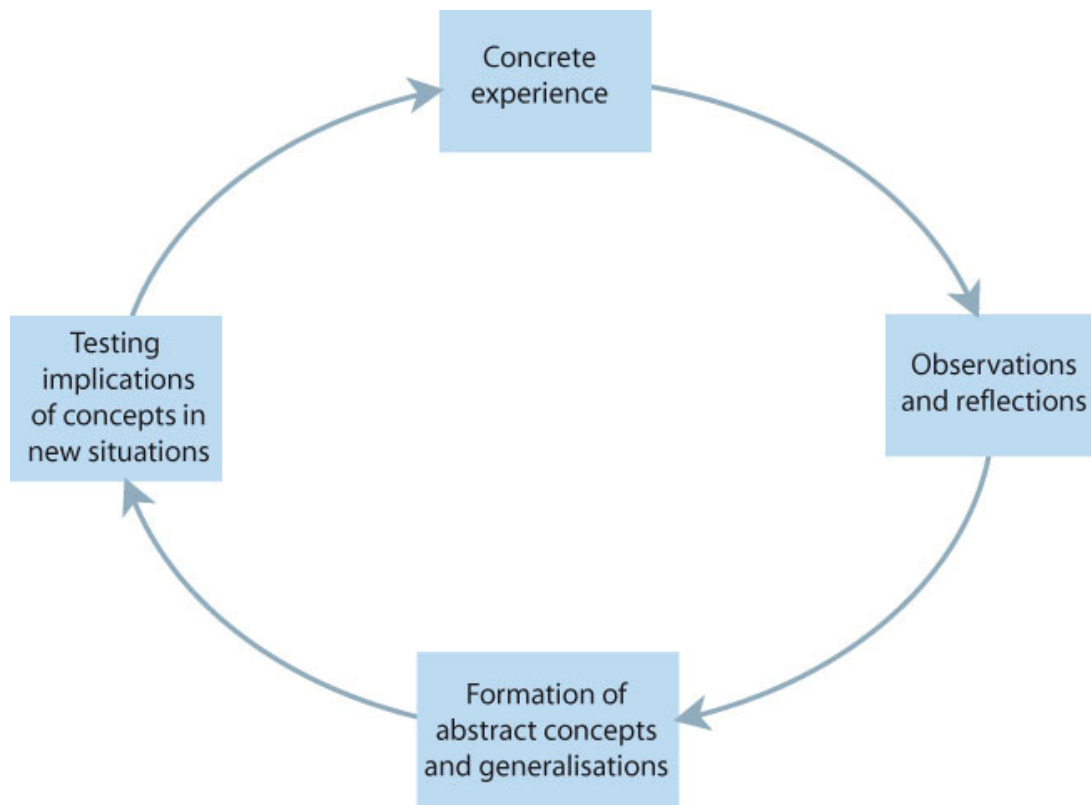
According to Boot and Hodgson (1987) "different assumptions about learning seem to be based upon different assumptions about the nature of knowledge" (p. 6). When knowledge is considered a 'commodity', learning is the 'acquisition' of that commodity, sometimes referred to as the problem of transfer. When knowledge is seen as a process of transformation or "attributing meaning to the world ... learning is the elaboration and change of the meaning-making processes and the enhancement of personal competence" (p. 6).

There are many perspectives from which learning is observed as a transformative process. The cognitive perspective, for example, looks at the cognitive features that are activated in the learning process and how these features influence behaviour.

Among the many models that try to explain learning as a cognitive process, one of the

best known and cited is Kolb's (1984) learning cycle. Kolb (1984) defined learning as "the process whereby knowledge is created through the transformation of experience" (p. 38). The learning process is seen as constituted by four phases, as in figure 9.

**Figure 9 – Kolb's Learning Cycle**



**Source: Kolb (1984: 21)**

In Kolb's model, learning may begin, for instance, with 'concrete experiences', which are internalised through 'reflective observation'. Thereafter, attempts are made to turn these observations into concepts that form the basis for later actions or experimentations. The model is constructed in two dimensions: one that Kolb called *prehension*, which conveys the application of functionally effective forces of apprehension and comprehension modes of relating to the world; and the dimension

he called *transformation*, which conveys the tension between the modes of intention and extension. In summary, Kolb's model proposed that learning:

- is best conceived as a process, not in terms of outcomes;
- is a continuous process grounded in experience;
- requires the resolution of conflicts between dialectically opposed modes of adaptation to the world;
- is a holistic process of adaptation to the world;
- involves transactions between the person and the environment;
- is the process of creating knowledge.

Since its conception, Kolb's learning cycle has greatly influenced research, curriculum implementation, and management development. However, Kolb's approach contains some limitations that were exposed by authors like Holman *et al.* (1997), Vince (1998), and Davies (2002). The principal propositions of criticisms of Kolb's conception of the learning process refer to a lack of a political perspective; failing to consider psychological and particularly unconscious processes; and an improper sense of uni-directionality.

These concerns led to a demand for a more situated approach to the concept of learning as cognition. Researchers working within a situated cognition perspective pay attention to context since context is an ever-present element in any learning situation. Even early psychologists in the 1940's talked about 'learning the place' as Bereiter (1997) mentions. In a situated cognition perspective, therefore, three conditions are in action when an individual is learning: the external world where the individual is

placed; the perception and internal representation of this world; and the interactions between the individual and this world (Seel *et al.*, 2000). According to this view, knowing is “the ability to interact with things and other people in a situation, and learning is improvement in that ability” (Greeno *et al.*, 1993: 100). Nevertheless, situated cognition still places a great emphasis on learning as a cognitive process.

The other perspective on learning that I find important to comment on here underlines the social aspects of learning. These theories are mainly influenced by the work of Vygotsky (1978). Social theories on learning define learning as the social construction of knowledge (McCormick and Paechter, 1999). Social constructivism emphasises the historicity, the context-dependence, and the socio-linguistic quality of all matters concerning human activity (Hibberd, 2005) and believes that “mind is transmitted across history by means of successive mental sharings which pass ideas from those more able or advanced to those who are less so” (Roth, 1999: 10). This has not only developmental but also ethical implications for the learning processes.

For instance, in this view, any ideas are not isolated objects and are not derived out of thin air. Therefore in the learning experience, teachers should recognise, as Dewey (1910, 1991) stated, that it is not only concepts, but the entire environment that exerts influence both on the immediate result and on “deep-seated and persistent habits” (p. 46) of students. In a broad perspective, history and the process of development of cultural life are important features to comprehend if we are to understand learning. A further argument in the social conception of learning is that learning is not simply situated, but is situated within specific communities where the individuals are constructing their selves (Wenger, 1998).

According to Wenger (1998), the focus of a social theory of learning should be on social participation, where participation means not only taking part in communities of practices but also constructing identities in relation to those communities. Learning as a social entity should recognise that humans are social beings, endeavouring to experience the world in a meaningful way. To achieve this, humans engage actively in several enterprises within the world, trying to acquire competence with respect to those regarded as valuable.

According to Lave & Wenger (1991), the central characteristic of learning which is defined as situated is what they call 'legitimate peripheral participation'. By this, the authors mean that participation in a community of practice is not only essential but inevitable and that "mastery of knowledge and skill requires newcomers to move toward full participation in the sociocultural practices of a community" (p 29).

Important to my discussion is Wenger's point of view that a social theory of learning should approach practice in terms of *meaning*, that is, an engagement which is worth pursuing, between the learner and his/her experience. Moreover, even the construction of meaning is a social construct as one is always in a 'negotiation of meaning', through the process of 'participation' and 'reification'. By participating, for instance, one learns through different processes: for example, by imitation, by playing or by acting (Dewey, 1910, 1991).

Communities of practice also stress the characteristic that social learning theory is not concerned with practice as an isolated activity which individuals may apply to achieve competence in a specific behaviour, and that communities cannot be considered in

isolation from each other. As observed by Wenger, “their members and their artefacts are not theirs alone. Their histories are not just internal; they are histories of articulation with the rest of the world” (p. 103). Finally, communities of practice are not simply about knowing; they are “about being together, living meaningfully, developing a satisfying identity, and altogether being human” (p. 134).

These characteristics of communities of practice led Lave and Wenger to declare in their 1991 work that they would not explore the relationship between communities of practice and schooling. Lave and Wenger stated that schooling as an organised form of community was “predicated on claims that knowledge can be decontextualised [and] that intentional instruction [is] itself the source or cause of learning” (p. 40-41). Thus, schooling assumes that what gets learned is not problematic with respect to what is taught. Brown *et al.* (1989) add that school practice presupposes

that knowledge is individual and self-structured, that schools are neutral with respect to what is learned, that concepts are abstract, relatively fixed, and unaffected by the activity through which they are acquired and used, and that JPF (just plain folks) behaviour should be discouraged (p. 37).

Effectively, as Fox (1997a) states, “schooling does not produce practitioners of some practice ... [it] cuts students and teachers off from other communities of practice ... [and] ... [it is] mediated by discourse rather than by observing a skilled performance and imitating it” (p. 30). One can only say that schooling produces ‘communities of

students'. What seems striking in this view, especially in professional schools, is that students are mainly being prepared to play a role outside that 'community of students'.

However, "what aspiring practitioners need most to learn, professional schools seem least able to teach" (Schön, 1987: 8). In the bipolar dilemma of rigour or relevance, professional schools opt largely for the former. One reason (among others) for the prominence of rigour is because, "the greater one's proximity to basic science, as a rule, the higher one's academic status" (Schön, 1987: 9). This usually leads to what Goodlad (1995) called forms of heresy, one form being 'abstractionism' or "over-emphasis on systems of thought, concepts ... and ... intellectual structures" (p. 103). In contrast, there is also the question of what constitutes relevance, with the "existence of rival camps that possess strongly held and divergent views (Bridgman, 2007: 427).

One question that may be posed in relation to my research is that of whether the PFN model has been caught in this trap. The PFN model seems to be constructed specifically to highlight practice and to break down the rigour of traditional education. However, the educational policies, the institutional environment, and the daily pedagogical practices of teachers may obstruct the achievement of these aims, as laid out in the model. This research hopes to shed light at some of these questions, especially those related to pedagogical practices.

Finally, it should be noted that I foresee a substantive influence of these issues in my phenomenographic perspective on students' approach to learning in the model. As my approach to the model is holistic and exploratory, I will probably find some of these features reflected in my categories of description.

## 4.5 Summary of Chapter Four

In this chapter, my intention was to review two concepts that I believed to be important if a learning experience was to be understood: those of education and of learning. The literature has described many dualities when referring to the concept of education: education as intrinsically worthwhile *vs.* education for different purposes; education as “development from within” *vs.* education as “formation from outside”; education as transmission of knowledge *vs.* education as unveiling of maturity.

Each concept of education implies that certain theories of learning are more valuable than others. If education is viewed as a form of transmission of knowledge, the learner is supposed to be the recipient of this knowledge and thus passive learning is expected to be sufficient for educational purposes. Conversely, if education is viewed as the construction of a person from an undifferentiated individual to a committed social agent, the learner is supposed to participate actively in the process, especially because the concrete form of this commitment is not predictable at the beginning of the process.

The many frameworks aiming to lead to an understanding of the learning experience lead to the necessity of choosing a theoretical perspective. I found social constructivism more useful for my purpose in the research journey than other perspectives because it allows the analysis of big pictures of the social world and of social phenomena, and consequently of the learning experience. Nevertheless, I also find that extreme perspectives of social constructivism are misleading when these assume the complete impossibility of an objective knowledge of the world. In this research, I follow the approach that, as proclaimed by Stone and Goodyear (1995),



foresees the need of a joint enterprise both of objective and subjective concepts to understand the learning experience.

## **5 Chapter Five**

### **On Management Education**

#### **5.1 Introduction**

A third element of context that I intend to explore in my learning experience model – besides those of education and learning – is that of management education. The reason for including management education as a concept to explore in the context of my learning experience model is the acknowledgment in the literature of the influence that different subjects may have on students' approach to learning (Meyer and Eley, 1999; Lucas, 2001; Hounsell *et al.*, 2005). Moreover, I argue in this chapter that the challenges in management education are tougher than, for instance, in science education, since the concept of management education raises many problems, both conceptually and operationally, that have only recently started to be faced.

It should also be stressed here that the concept of management education will be restricted to formal educational processes occurring within, and controlled by, educational institutions (schools, universities), and offering some form of degree in management studies to students who do not necessarily have experience in management. Although there are many parts of the literature which have limited applicability in this thesis, the literature will be relevant when addressing questions about management education in relation to how the concept is used or may be used in the initial stages of management education, including at an undergraduate level. With

this in mind, works that focus on, for instance, training and executive development are not considered to be relevant.

At the end of the chapter, I will review some literature about the rationale of providing management education in the early stages of the educational process. This is considered increasingly important as our society moves towards more complex economic relationships on a global scale, and people are expected to play roles in this network as soon as possible, either as agents in organisations or as actors such as consumers.

## **5.2 The Concept of Management Education**

Although the principles of running a business can be traced back to medieval times, with the first ethical code of a 'good merchant' being written by Bernardino Albizzeschi da Siena (1380-1444) and the first comprehensive treatise, the *Libro dell'arte di mercatura*, being composed by Benedetto Cotrugli in 1458 (Engwall and Zamagni, 1998), management education has been considered to be an American invention (Locke 1998; Amdam *et al.* 2003).

According to this version, both the birth of business schools and the concept of management education, as we know them today, began in the second half of the 19<sup>th</sup> century, in particular with the creation of the Wharton School of Finance and Commerce at The University of Pennsylvania in 1881 (Mintzberg, 2004). Since then, management education has prospered both as an academic discipline and as an economic market, culminating nowadays with tens of thousands of educational

institutions dedicated to preparing people to occupy managerial positions in all kinds of organisations throughout the world.

As a field of study, Burgoyne and Reynolds (1997) locate management education as a subset of management learning. They define the latter as

an area of both professional practice and theoretical inquiry ... [that] ... covers everything from self-awareness and interpersonal skills to sophisticated financial, marketing and statistical technique. In process terms, management learning embraces everything from formal educational lecturing, MBA programmes, instruction, all kinds of information technology applications, outdoor management development, sophisticated simulations and business games to the full range of esoteric experiential learning methodologies (1997: 1-7).

However this broad definition may be awkward to operate. The authors offer four views for making sense of management learning.

Firstly, there is Fox's (1994a, 1994b) perspective, represented by the framework **MLml**. It proposes that, within management learning, a distinction can be made between formalised, institutionalised practices of management (M) and formalised institutionalised forms of learning (L); and the equivalent practices in informal, naturally occurring management (m) and informal learning (l). In this perspective management education is part of a bigger framework or, as Fox (1997a) asserts, "a subset of higher education (HE), largely provided by university business and

management schools and subject to the critical rigours of the wider academic and research community” (p. 21).

Secondly, the framework proposed by Burgoyne (1994) in which management learning is coming to an age of being perceived from multiple perspectives, both as an area of study and as a practice. According to Burgoyne, some of these views highlight management learning: a) as a professional practice; b) as an applied philosophy; c) as an integrated area of study; d) as an interdisciplinary area; and e) as an emancipatory ideology.

Thirdly, Burgoyne and Reynolds (1997) propose the view that management learning can occur in macro-domains (international and national organisations) or micro-domains (educational institutions and workplaces), combined with macro- and micro-decisions (strategic and operational decisions).

Finally, the authors point to a ‘no map’ approach which recognises that “it is not helpful to propose a map ... [and that] ...management learning [should be] better thought of as the combination of the ideas and practices of all those who associate themselves with management learning as practitioners and academics” (p. 15).

Nevertheless, this alternative only seems to acknowledge the complexity of the concept, rather than offering any answers; this sends us back to the beginning of our questioning.

Whether the discussion is concerning the broad concept of management learning or the more specific concept of management education, controversy still arises. French

and Grey (1996), for example, identify two broad perspectives on management education literature: the first is critical of management education's concepts; the second argues that what we need most are effective methods of teaching and learning. The first view, in turn, is a field divided into two broad orientations. From the more critical perspective, there is the view that points to management as "an illusory activity" and consequently, "management education must abandon its pretensions to be able to provide managers with management skills in any traditional sense" (French and Grey (1996: 3). On the other hand, there is the perspective that sees management as having to cope with "a complex and rapidly changing world" and consequently, management education methods and contents "need to be quite radically altered in order to equip managers with the ability to work effectively" (p. 3). In my research, I will align with this latter perspective in general.

In the following paragraphs, I will primarily explore those debates that frame management education as formalised institutionalised practices of management and learning (Fox, 1994a, 1994b). However, the focus will not be restricted to what happens in the higher education sector alone; recent developments in society have stressed the necessity of including management education within the early years of the educational process. My interest will be also directed to those studies that question how management education has rethought its methods and practices to achieve its learning aims.

This rethinking of management education has been carried out periodically for nearly 50 years: the first comprehensive evaluation of management education was an extensive research conducted by Gordon and Howell in 1959. By that time, Gordon

and Howell had already recognised the need for a reappraisal of management education, stating that

in no other area of professional education ... is there so much uncertainty as to what constitutes a proper educational background for professional practice, or are existing educational standards and practices viewed with greater scepticism (p.6).

Operationally, Gordon and Howell (1959) commented in their report that a business course could be taught with one of three kinds of emphasis: (a) the descriptive; (b) the analytical, and (c) the managerial-clinical. The authors referred to the descriptive approach as a “class recitation from a textbook”; the analytical approach as “a search for significant generalisations and the development and application of analytical tools” and the managerial-clinical approach as a “problem-solving situation” (p.360-361). They then observe that in the undergraduate schools practice concentrated too much on the descriptive approach, that is, on a detailed subject matter which the student had to absorb and then repeat in examinations.

What was needed, they argued, was a greater emphasis on the analytical and the managerial-clinical methods. By clinical methods, the authors meant the use of cases, problems, role-playing, and other types of assignments which would enable students to gain some experience of dealing with situations that they would be likely to face in the real world.

In 1988, there were two other substantial books based on reports about management education. In Great Britain, Handy *et al.* (1988) published the results of their comparative study of management education in five countries (Japan, the USA, France, West Germany and Great Britain). Some of the conclusions of their work which are relevant to my purposes here are:

- a) There are similarities and differences in the way each country approaches the issue: it is therefore clear that there is more than one way to learn how to be an effective manager;
- b) There needs to be a clearly understood pathway to becoming a competent manager, based on the specific culture of the country and its educational infrastructure;
- c) There is a clear distinction between business education and management development. Business education is basically an individual responsibility, and management development is a cooperative responsibility as it benefits both the individual and the organisation;
- d) All the education in the world will make little difference if the individual is not in a position to try it out (Handy *et al.*, 1988)

In the same year, in the USA, Porter and McKibbin (1988) published another substantial report on management education. The authors acknowledged that substantial progress had been made in tackling the problems that Gordon and Howell had addressed in their study, especially the engagement of students in the learning



process and the use of a more applied approach. However, they criticised management education for continuing to have a disintegrated view on the traditional functional areas of management education (production, marketing, finance, Human Resources), as if they were as ends in themselves and not as means to solve the complex and multifaceted problems of the business world.

The integration of functional areas (production, marketing, finance, Human Resources), into a 'capstone course in business policy' did not seem to result in students gaining enough awareness of the complexity of the task of managing. Moreover, business policy courses treated management as if it was possible to resolve problems by the addition of the specialised knowledge gained from within functional disciplines.

In addition, the content of business courses lacked the aim of generating 'vision' in students with "business school courses [focusing] more on problem solving than on problem finding, more on analysing solutions than on creating novel approaches, and more on locating safe or acceptable courses of action than on taking prudent or moderate risks" (p. 64). Schön (1987) considered that these problems are inherent to professional schools (among them management schools), especially if they are located within a larger university. Professional schools located at universities tend to be seen as "lower schools", and aim simply to apply knowledge; "higher schools", conversely, are devoted to generating knowledge. This creates a conflict, or at least a barrier, between those who are practice-oriented and those who are discipline-oriented in the professional school.

These apparently irreconcilable, opposed approaches to management education are of particular concern when compared to professions such as engineering, medicine, law and architecture. While these professions, especially engineering and medicine, have achieved increasing respect in relation to their achievements and their methods of research and education, management education has struggled to be recognised with the same high regard. This is one of the reasons why there is not, for example, a clear-cut definition of what is an exclusive professional activity of managers as there is in the case of physicians or engineers.

Simon (1967) stated the objectives of professional schools, including management schools, as “education and training for prospective or present practitioners in the profession and for persons wanting to do teaching and research in the professional schools; [and] research to advance knowledge relevant to the practice of the profession” (p. 200). Thus, professional schools incorporate both the world of theory and the world of practice.

If, on the one hand, the world of theory should provide the management professional school with the relevant scientific information to apply to the world of management, on the other hand, the world of practice should aim to provide the management professional school with information on the actual state of the profession and of the points where the lack of a theory was affecting performance. It can be seen that there is a clear problem in management schools with bridging the gap between these two worlds.

Schön agrees with Simon's arguments that there is a huge gap between "[professional] school and university, school and practice, and discipline-[oriented] and profession-oriented components of the school" (Schön, 1987: 308) but he disagrees with Simon's way of sorting out the problem. For Schön, what Simon proposes is to "knit together the subworlds [of professional education] oriented to university and practice" (p. 308). In Schön's (1987) view, what is needed is a new epistemology of professional education; one which would place a reflective pedagogy at the centre, as a way to bridge the two worlds of professional education: the world of practice and the world of thinking. The pedagogical acts in this new pedagogical epistemology would happen in a 'reflective practicum', in which students would learn mainly by doing, with the help of experienced coaches.

Comparing two courses – management education and art design education – Eickmann *et al.* (2002 – see table 2 below) observed that in art design education, the learning process is constructed in a "demonstration-practice-production-critique" series purposefully repeated throughout the course. The work in art design education is "to take what is given and transform it into an idea that communicates the desired message in the most successful way ... [and the artist's dilemma is to come up] ... with the most inventive, insightful and effective solution to the problems at hand" (p. 6). According to Eickmann *et al.*, this dilemma is no different from the challenges which managers face in their daily tasks.

**Table 2 – Comparison of Arts Education and Management Education**

Arts Education	Management Education
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• Aesthetic	• Scientific
• Demo-practice-production-critique	• Text driven
• Recursive	• Discursive
• Theory and practice	• Theory
• Showing	• Telling
• Expression	• Impression
• Individualised	• Batched
• Diverse faculty	• Abstract faculty

**Source: (Eickmann *et al.*, 2002: 4)**

However, in management education, ‘learning is text driven’. Texts are organised to “deliver an authoritative scientific discourse” (Eickmann *et al.*, 2002). Eickmann *et al.* acknowledge that Gordon and Howell’s (1959) report established the scientific basis of the management curriculum “by grounding it in three scientific disciplines; economics, mathematics, and behavioural science” (p. 3). However, the practical basis of management education in the curriculum has not been articulated. Generally, schools consider practice as the student’s concern, and usually fulfil this obligation by linking the student with some external organisation, and do not provide much pedagogical assistance. Nonetheless, performance should be considered important in professional schools and overly academically-oriented courses are not generally welcomed. The authors concluded that a more integrated learning environment in management education would improve the managers’ ability to be innovative and effective in tackling problems and situations in their professional arena.

In spite of these and other studies on management education and professional education in general, Mintzberg (2004) recently stated that management education has never been properly considered. Mintzberg believes that management is still a practice that has to put together a good deal of experience with a certain amount of insight and some analysis. Managing, then, is the combination of craft, art and science. Effective managing and effective management education should thus stress all three aspects. Mintzberg believes that an education that overemphasises science encourages a style of managing that he calls “calculating”; an education that stresses art encourages the graduates to behave in a style he calls “heroic”. Management education which puts too much emphasis on craft, however, may lead to a style of managing, “where a manager may never venture beyond his or her experience” (p. 94).

To add to this set of problems, Cunningham & Dawes (1997) included other challenging concerns about management education. According to them, many assumptions are taken for granted in mainstream management education. A list of problematic assumptions in management education which I consider relevant to this work is provided below:

- Management is a context-free activity – there are things to learn which have universal validity;
- What is taught equals what is learned;
- There is a self that learns – and learning is largely an individual activity;
- Learning is all one thing – the verb ‘to learn’ covers only one process;
- Learners are much the same and learn in similar ways;

- Issues of the authority, control and power of staff (trainers and tutors) over learners are unimportant;
- Means and ends can be separated;
- The debate is between knowledge-based courses and competency acquisition – ‘there is no other show in town’;
- Courses really exist (design is not a metaphor);
- Reductionism and fragmentation into subjects is the only way to progress the teaching of management;
- Educational environments are good places in which to learn;
- Assessment must be through objective measurement;
- Vertical grading is the only way to assess people;
- Transfer of learning is relatively easy;
- Experiential learning is best.

This set of problems in management education concept informs us that management education as a practice is a fragmented field “inhabited by a plethora of models, theories, methods and arguments” (Holman, 2000: 198) with a series of tensions between theories, fields and models. These tensions come to the fore in debates about contrasting concepts in management education, such as ‘action vs. theory’, ‘reflection vs. action’, ‘liberal vs. vocational’ and ‘competence vs. academic’ (Holman, 2000). To make sense of this diversity and these tensions, Holman then classified management education into four models that he called:

- a) Academic liberalism;
- b) Experiential vocationalism;

- c) Experiential liberalism; and
- d) Experiential/Critical School.

The major characteristic of academic liberalism, according to Holman, is “that management education should be concerned with the pursuit of objective knowledge about management, that is, the generic principles and theories of management” (p. 203). As expressed by Willmott (1994), this objective knowable world presupposes at least the notions that a) the world is something to learn about; b) some notions of correct management practice, established by research, should define the curriculum; and c) models, concepts and ideas should be provided to offer students tools for thinking and action. The difficulty or failure of the academic liberalism model to meet the aims of ‘generic principles’ occasionally leads the gatekeepers of this model to question what is missing. The experiential liberalism model is sometimes thought to be the answer, according to Holman.

Kolb’s theory, with its ‘stages’ of ‘concrete experience’, ‘reflective observation’, ‘abstract conceptualisation’ and ‘active experimentation’, is the most cited model in the experiential liberalism tradition. The experiential liberalism model as a fusion of knowledge and practice, focused both on managerial experience and the reflection and reconceptualisation of that experience, is well received within business and management schools, but internal debates “give rise to different understandings of the learning process, the specific, intermediate and general aims, and teaching methods” (Holman, 2000: 206).

Another configuration in management education suggested by Holman is the experiential vocationalism model. This model deals with the difficulty of management education in supplying relevant and efficient 'producers' of management for the labour market. Proponents of this model believe that management education should drift to a more pragmatic view of management. One way of achieving this would be the description of real and generic management action and organisational standards as a basis for educational practice. To this end, many studies have been conducted to unveil the competences that students need to acquire to achieve these standards, especially those required by top organisations. For example, the Secretary's Commission on Achieving Necessary Skills – SCAN – identified as required competences:

- Management of resources of time, money, people, material;
- Interpersonal competence for working with others;
- Information acquisition and use;
- Understanding complex systems;
- Work with various technologies (cited in Lewis, 2005: 431)

Finally, Holman identified a model he called the experiential/critical school. This school aims principally to "emancipate managers and other employees in the organisation from oppression and alienation" (p. 208). Pedagogically, the experiential/critical school holds to post-modern theories, with reflection on discourses both inside and outside organisational environments. The aim of critical pedagogy is to try to develop in students reflective skills which will enable them to be critical about their own knowing and doing. Nevertheless, this seems to be



problematic because “management education needs to be engaged in the world of managers ... [but in order to fulfil the objectives of the critical school, practitioners of management education need to be] ... disengaged from their instrumental and oppressive practices” (p. 209).

In conclusion, Holman advocates that academic liberalism and experiential vocationalism have problems with the ‘objective epistemology’ of the former and the lack of ‘social, political and moral aspects’ of the latter. Experiential liberalism and the experiential/critical school seem to offer the greatest potential for developing managers because they provide a substantial range of teaching practices for the educator, and both are critical of the object of study.

Holman’s proposal has much in common with Shulman’s (2005) position, which regards professional education as a synthesis of three apprenticeships: a) a cognitive apprenticeship to learn how to think like a professional; b) a practical apprenticeship to learn how to perform like a professional; and c) a moral apprenticeship to learn how to integrate thought and action in a responsible way. It seems to me that this vision will only be achieved if management educators are attentive to how learning context and learning environments are designed and constructed for specific learning situations. This should take into consideration not only the differences of students’ approaches to learning and teachers’ approaches to teaching, but also the differences in developmental stages of the students themselves. This is the case when the learning environment is designed to teach young or inexperienced students about management, as is the case, for instance, in the PFN model.

### **5.3 Management Education in the Early Stages of the Educational Process**

Although the university is the standard place where management education, as an academic field of study, is located, it should be noted that management education and its related areas of study – economic education or business education – have increasingly been considered important in the earlier phase of general education.

When located within universities, management education benefits from a diverse provision of disciplines. In elite institutions, it becomes the source of provision for employers, with graduates having not only a certain background and specific knowledge, but also ready social access to a network of potential members of the future elite (Engwall and Zamagni, 1998).

Nevertheless, in the early stages of education, management education has to be rationalised in different terms. To understand how the literature does this is considered appropriate in my research because young students from the age of 16 make up a significant proportion of its participants. Students at this level generally are not interested in management education as a field of study or as a professional area, therefore they do not react well to presentation of theories of management or to academic works on the subject. Most of them do not even know if management is going to be their profession. Many are studying the subject because it is on the programme and constitutes a step towards concluding formal education. Thus, some words about the rationale of management education in early stages of educational process are appropriate.

I have researched the British experience of this theme, but the guidelines that it addresses can be considered to have widespread applicability. In Great Britain, the Office for Standards in Education (OFSTED) outlined two different learning tasks related to business and management. Firstly, it stated that *business education* is

the learning process through which young people acquire a knowledge and understanding of the nature and role of business and its organisation, the economic environment in which it operates and the contribution it makes to the creation of wealth and to the satisfaction of human needs and wants (Butler, 2002, cited in Abbot, 2003: 1)

Secondly, it stated that this process "... involves the development and application of skills, attitudes and personal and social qualities for living and working in an industrial society" (Butler, 2002, cited in Abbot, 2003: 1). This role would appropriately be called management education.

In business education, the learner would be directed to the understanding of an 'objective reality' represented by the set of organisations that perform this 'reality', and to the understanding of the economic environment in which these relationships take place. Management education in this stage of the educational process would be related to the development of the individual's ability to perform a role with and within these organisations. In a broad sense, this role would be that of a customer, an employee, a manager, or even an entrepreneur. Part of this functional education can be appropriately called an introduction to management education.

As rationale for this view, QCA pointed out that all citizens should understand some basic economics, how the economy functions, and the role of business and financial services in society. It also stated that “young people want[ed] to see the relevance of education to their future lives, and they want[ed] assurance that what they [were] learning [was] developing their employability” (QCA, 2003: 3). Finally, QCA suggested that improved knowledge of the labour market and the needs of employers would raise the aspirations of some, and help others make more informed decisions about suitable post-16 learning programmes.

The assumption is that all young people need work-related learning as an essential part of a full preparation for an adult life in which they will contribute to general economic welfare. Therefore, every citizen should understand the basics of social economic relationships, not only to improve their employability but also to contribute in many different ways to sustainable development (QCA, 2003). This kind of discourse is common worldwide; it reflects the needs of a fragmented, globalised and interconnected society.

To achieve these aims, QCA (Qualifications and Curriculum Authority; UK government) proposed that the curricula offered at GCSE (General Certificate of Secondary Education) level in Business Studies should include elements of economics, the various business disciplines, and also Information and Communication Technology (ICT). ICT has been a popular option for students within the school system (Abbot, 2003).

The experience would be provided by different formats: by learning through work, for example, through work experience or part-time jobs, enterprise activities in schools, and learning through vocational contexts in subjects; by learning about work, for example, through vocational courses and careers education; or by learning for work, for example, through problem-solving activities, work simulations, and mock interviews (QCA, 2003). In summary, business and management education at the school level would be more pragmatic and less text-oriented.

#### **5.4 Summary of Chapter Five**

In this chapter, I have shown how the concept of management education has increasingly gained importance in education as our society is becoming more complex and interrelated. I have argued that in terms of professional education, management education is linked both to knowledge acquisition and to performance in action, that is, professionals should not only ‘know that’ but, in particular, ‘know how’ (Ryle, 1949). Management education has struggled to find ways of integrating these two facets of professional education.

In this chapter, I have described some studies that demonstrate how this link is problematic. Radical views propose that the concept of management education should be abandoned, while more moderate views conclude that the concept of management education needs to be criticised, deconstructed or realigned to allow the enhancement of management practice. Moreover, a grasp of the concepts of management education is needed for all individuals in society, either to perform roles within organisations or to conduct transactions with organisations.

Finally, I referred to UK's initiative to introduce the concept of management education in earlier stages of schooling. The general argument is that this is of particular importance to our globalised and interconnected society and its complex and interrelated forms of economic relationships. It also helps young people both to understand how the economic world behaves and to insert themselves into these economic structures.

## 6 Chapter Six

# Learning Environments and How Students Approach them

### 6.1 Introduction

In Chapter Three, I defined the main characteristics I apply to distinguish the concept of *context of learning* from the concept of *learning environment* in a learning experience. In the previous two chapters I paid attention to some aspects of the concept of context of a learning experience; in this chapter, I turn my attention to how the literature has depicted the concept of learning environment.

The concept of learning environment is important because it transpires to be the medium through which the activities in a learning experience are experienced and, as suggested by McLuhan, (1967) “the medium ... shapes and controls the scale and form of human association and action” (p. 9). In this sense, added McLuhan, “the medium is the message” because the “‘message’ of any medium or technology is the change of scale or pace or pattern that it introduces into human affairs” (p. 8). Some findings in the literature have demonstrated that students’ approach to learning is related to their perceptions of the learning-teaching environment. Thus, changing the conditions of the learning environment influences students’ learning (Lucas, 2001).

After reviewing the literature on the concept of learning environment and also on forms of learning environments in the field of management education, I will illustrate some research that has described students' approach with respect to their learning environments.

At the end of this chapter, I contend that students' learning outcomes are influenced not only by features of the context, such as educational policies, as I argued in the previous chapters, but also by the relationships between students and their immediate learning environment. I also suggest, throughout the chapter, that the 'medium', that is, the learning environment, influences learning and knowledge representation because it is designed in conformity with the theories-in-use (Argyris and Schön, 1974) by those who exercise social control.

## **6.2 Learning Environments**

The literature describes three different sets of characteristics with reference to learning environments. Firstly, it describes learning environments as 'places', 'sites' or 'spaces' (Wilson, 1996; Illeris, 2002) where the learning experience occurs; secondly, it describes learning environments as structures that bind together the elements (teacher, students and resources) in the learning experience; and finally, learning environments are defined by taking into consideration the activities and purposes that those elements (students, teachers and resources) perform in these places (Weston and Cranton, 1986).

In the first view, for instance, Wilson (1996: 3) defines a learning environment in contrast to 'instructional environments' as "a place where people can draw upon



resources to make sense out of things and construct meaningful solutions to problems”. From this standpoint, learning environments are constituted and differentiated by the types of things that are present in the physical environment. According to Perkins (1991) learning environments are constituted of items such as “information banks, symbol pads, phenomenaria, construction kits and task managers” (Cited in Wilson, 1996: 6). Continuing this theme, Illeris (2002) talks about internal and external conditions of learning and defines the external condition of learning as types of ‘space’, or spheres in which learning occurs. Students come to these learning spaces with presumptions about what to expect and how to behave, which inform the basic attitude they will have to learning.

When described by the second set of features – as structures – learning environments are generally defined by the sort of elements that bind people and things together around an activity that provides the condition, the means, and the support necessary for the learning experience. In networked learning, for instance, the emphasis is on communication and information technologies “to promote connections: between one learner and other learners, between learners and tutors and between a learning community and its learning resources” (Goodyear *et al.*, 2004:1). Another version related to a structural view of learning environments defines them as “nested structures which provide the physical setting for the work of a community of learners” (Goodyear, 1997: 6). Although resources are important considerations for learning environments according to this view, the main features are the links and interactions that are produced between the members.

When viewed by the third set of characteristics – as activities – learning environments are considered with respect to the ways in which the content is organised and delivered. It is also defined as methods of instruction, which can be classified in a variety of ways. According to Weston and Cranton (1986), for instance, methods of instruction can be distinguished in four ways: (1) instructor-centred; (2) interactive; (3) individualised; and (4) experiential.

Examples of *instructor-centred* teaching methods include lectures, questioning, and demonstrations. *Interactive methods* rely on the involvement of the students in the communication process in the classroom. Some examples of this method include class discussion (as a whole or in groups), group projects, and peer-teaching. *Individualised learning methods* have received different kinds of attention, from psychological studies of memory capacity to computer assisted learning. They are based on the assumption that learning is an individual task and that everyone has a different way of learning; thus, the individual should learn at his/her own pace. Programmed instruction, modularised instruction and computerised instruction in the form of instructional packages are examples of individualised learning methods. Finally, *experiential learning methods* involve a different kind of relationship between the learner and the content, as we can see in the field of clinical methods, laboratory methods, role playing, in simulations/games, and in some forms of drill (Weston and Cranton, 1986).

Hannafin and Land (1997) offer another classification of learning environments. For the authors, learning environments are rooted in five foundations: psychological, pedagogical, technological, cultural, and pragmatic. While the *psychological*

*foundation* of learning environments reflects “views about how individuals acquire, organise, and deploy knowledge and skill” (p. 172), the *cultural foundation* “reflect(s) prevailing beliefs about education, the values of a culture, and the roles of individuals in society” (p.176). These views evolve and have to be understood historically.

The *pedagogical foundation* of learning environments focuses on the ‘activities, methods, and structures’ used in the learning environment. It provides the ways in which the content is organised. It may be related to the *technological foundation* of learning environments, which represents the technological constraints that are put on the learning activities. The technological constraints determine what is possible, in contrast to what is required or desired, because technologies are defined by the “operations they support and the symbol systems they employ” (p. 175). In this view, the pedagogical foundation is mediated by the technological foundation.

Finally, the *pragmatic foundation* of learning environments underlines the contextual constraints that influence the design of learning systems. Hannafin and Land emphasise the uniqueness of each learning setting, illustrated, for instance, by the “run-time requirements, hardware/software availability and compatibility, and financial concerns” (p. 177).

In conclusion, Hannafin and Land contend that “any learning environment is ultimately shaped by its foundations and assumptions about learning, pedagogy and the learner” (p. 197). Changing any of the assumptions necessarily involves changes in the relationships between the foundations.

Another alternative schema for understanding learning environments was given by Wosnitza and Nenniger (2001), who claim that two different levels of description should be considered when conceptualising learning environments: *the object of reality* and *the perspective of reality*. The object of reality refers to learning environments as objects of study, with their content polarised into *material* and *social* concreteness. The material aspect relates to the concrete character of reality and the social aspect to the inferential perspective of the subjects.

The perspective of reality refers to the dichotomy of *reality as objective* and *reality as subjective*. The objective view considers important concrete aspects of reality, which includes issues such as class size, supply of literature in a university library, presence of textbooks, computers, intensity of internet access, etc. The subjective view, on the other hand, considers the individual's perception of reality, including things like student relationships to the teacher, student perceptions of the atmosphere of the classroom, etc.

More recently and pragmatically, however, Merrienboer and Paas (2003) and Achtenhagen (2000) proposed that we should differentiate between types of learning environments in response to the enormous changes and challenges which are occurring in the world of work, where working tasks are shifting from linear, standardised and isolated to non linear, varied in content and with different degrees of interrelationships. Merrienboer and Paas called environments that are created to deal with this type of context 'powerful learning environments'. Powerful learning environments allow the development of complex and higher-order skills, and deep conceptual understanding. They also allow students to develop the ability to regulate

their own learning. According to the authors, powerful learning environments enable the reconciliation of three worlds: the world of work, the world of knowledge and the world of learning.

*The world of work* deals with descriptions of real-life or professional tasks and assumes that learners learn best within rich environments. *The world of knowledge* presupposes the analysis of 'learning goals' and some sort of taxonomy and hierarchy of these goals. Normally, the achievement of these goals relies on a series of procedures guided by concepts, rules and strategies which is the link to the world of learning. *The world of learning* focuses on "the description and analysis of leaning processes" (p. 6). It involves the specification of the instructional conditions which are necessary to support the specific kind of learning process. In order to reconcile these three worlds, a powerful learning environment

must pay attention to the coordination of all skills that constitute a complex cognitive skill as well as the integration of those skills with subordinate knowledge and attitudes, and concurrently promote schema construction for non-recurrent aspects and schema automation for recurrent aspects of the complex skill (Merriënboer and Paas, 2003: 9).

According to Merriënboer and Paas, to achieve this differentiation, coordination and integration of skills, a powerful learning environment may be described as compounded by four elements: a) learning tasks or "concrete, authentic and meaningful real-life experiences that are provided to learners" (p. 9); b) supportive information, that is, mental models and cognitive strategies which may help students

to deal with the performance of non-recurrent aspects of learning tasks; c) procedural information or information that learners “need to know to perform the recurrent aspect of the learning tasks” (p. 10) and (d) part-task practice, that is, activities that provide training for particular skills.

Merriënboer and Paas’ framework may represent a shift in the instructional learning literature in favour of more realistic learning environments. However, it is still necessary to be cautious because it is not always clear in the real world what constitutes a complex skill, let alone how to develop it. What seems reasonable is the suggestion that passive, teacher-centred and cognitive learning environments are not valuable for developing complex skills. Nevertheless, as Merriënboer and Paas acknowledge, “very little is known about the systematic design of [powerful learning environments]” (p. 17). This is particularly true in management education, where learning environments may oscillate from the traditional to the exotic.

### **6.3 Learning Environments in Management Education**

In management education, learning environments have been characterised in many ways. When the focus of analysis of the learning environment is on the activities in which learners and teachers take part during the learning experience, a very common distinction is the bipolar classification of ‘traditional versus experiential’. Although experiential can be a persuasive title, it is difficult to define what constitutes an experiential learning situation. What is called ‘experiential learning’ can include virtually all social experience to which students are exposed: computer simulations, field experiences, internships, cases, debates, plant tours, t-groups, role-plays, etc.

In fact, as expressed by Bowen (1993), even a traditional lecture may be considered to be an experiential activity. For this reason, Bowen asserts that the distinction between “traditional versus experiential appears to be an oversimplification ... [and that] ... we [should] reformulate the questions to move on to something more productive” (p. 157). Despite Bowen’s criticism, the dualism ‘traditional x experiential’ still seems to be a useful starting point.

In traditional learning, as I have illustrated in Chapter Four, schools assume, for instance, that (a) knowledge is individual and self structured; (b) schools are neutral with respect to what is learned; and (c) concepts are abstract, relatively fixed, and untouched by the activities that are used to grasp their meaning (Brown *et al.*, 1989).

In experiential learning, in contrast, interactive events are expected to replace those ‘talk and chalk’ presentations characteristic in traditional learning environments. Interactive events result in much less emphasis on the person of the teacher, who abandons or greatly reduces the amount of direct instruction and instead takes on the role of facilitator (Jones, 1989). According to Jones, in interactive learning events, teachers allow students “to make their own decisions, which include making their own mistakes” (p. 7).

When the emphasis of analysis is on the locus of the activity, Bilimoria (1998) observes that management education has historically been an “enterprise undertaken primarily in the classroom” (p. 266), even when educators are interested in experiential learning education. However, Bilimoria (1998) notes that, “recent shifts in prevailing worldviews” have resulted in the emergence of a new pattern that

represents a “diasporic shift” towards a *real-world-based experience*. Real-world-based experience is defined by Bilimoria as when “learners, steeped in complex contexts, personally work on and contribute to solving problems and issues that matter in the real-world” (p. 266).

Some teachers try to transform a classroom-based learning environment into an experiential learning environment. This kind of shift is very demanding. Cohen (1993), for instance, describes how he tried to achieve this. He used events that were happening in the classroom as opportunities to create situations in which the classroom was treated as an organisation in itself. Although the course had the usual classroom-based structure, it was run to put students in the position of an organisational member. Cohen noted that the method had a positive impact on students’ motivation. However, he also perceived the very different demands the experiential design imposed on features such as, for example, time, the role of the teacher, and assessment. These different demands are generally difficult to deal with because the structures and processes of the learning environment are not fitted to support them.

Although the variety of specific types of learning environments may be large in both perspectives, I now intend to focus on two basic forms: lectures (and their variations) and group work (and its variations). These two forms are very prominent in management education. The former is the basic representation of traditional education and the latter the basic form of experiential education.



### 6.3.1 Lectures

Lectures can be seen as a form of classroom-based experience in which the teacher is in control of the treatment of the subject matter. Bligh (2000) defines lectures as “more or less continuous periods of exposition by a speaker who wants the audience to learn something” (p. 6). Then the author follows with the kinds of objectives lectures may fulfil, what factors affect the acquisition of information in lectures, lecture techniques, and how to prepare to use lectures.

Bligh concluded that lectures have “four logically distinct kinds of objective: the acquisition of information; the promotion of thought; changes in attitudes, and behavioural skills” (p. 6), but that lectures can only fulfil the achievement of one: the students’ acquisition of information. According to Bligh, “the available evidence suggests that discussion methods are superior to promote thought and attitudes. Practical activities are best to teach practical skills” (p. 24). Nevertheless, research on lectures has been inconclusive, which led Hodgson (1997) to assume that one reason for this result may have been a ‘narrowness of approach’.

Lectures function relatively well only in very explicitly standardised and stable domains. They are problematic in most areas of social science, and especially in management education. Instruction is characteristic of early years of schooling, but as the learner is gaining expertise in certain domains of knowledge it is expected that s/he may challenge the teacher’s expertise. As soon as students learn to question teachers’ expertise, lectures may take some forms of variation.

One variation of lectures is what Dunkin and Biddle (1974) called ‘teacher-student interaction’. Teacher-student interaction is a variation of lectures in which “both teacher and pupil have some control over the treatment of subject matter” (Nuthall and Snook, 1973, cited in Dunkin and Biddle, 1974: 34). In general, this involves verbal communication, with adjustments in the way that teachers or students are in charge of the course of the conversation. The use of this form of interaction may evolve into what Bookfield and Preskill (1999) have termed ‘democratic discussion’, in which teachers assume the responsibility for guiding the discussion but in fact neither students nor teachers have complete control of its direction.

Another variation of lectures was named ‘seatwork’ by Dunkin and Biddle. In the seatwork form of interaction in classrooms, the students are outside the direct control of the teacher and are occupied in some kind of exercise, practical work, or study (Nuthall and Snook, 1973, cited in Dunkin and Biddle, 1974). Although in this form of lecturing the teacher’s control over students is indirect, the teacher is still responsible for the choice of students’ activity and their assessment. Nevertheless, this kind of activity is qualitatively different from the group work method, which I will address below.

Structures and processes within educational institutions are explicitly configured to support lectures and their variations, more than they support any other educational process (see Figure 10). Lectures and their variations rely strongly on the figure of the tutor, and the physical arrangement of the space used takes this into account. In the picture, one can see that the environment is prepared for a lecture, with a central

position allocated to the teacher, or to someone at his or her command, and the resources positioned close at hand.

Lectures are a common experience in education (including management education), not only because of tradition and the possibility of students acquiring information, but also for economic reasons or, as Bereiter (2002a) claims, because any innovation to replace lectures would have to demonstrate its viability within a certain time frame.

Although lectures and their variations are prominent in educational institutions, their use has been undermined by recent developments, especially those of information technology. Consequently, Bowden and Marton (1998) suggested that teaching should move to learning, and the processes of learning should move from “the one-teacher, one-classroom, 50-minute lecture” (p. 268) to something more student-centred.

According to Bowden and Marton, this classroom-based design creates limitations on the physical architecture, on the administrative structure, and on the daily schedules of staff and students. In their view, these limitations inhibit the development of almost any other kind of learning experience. It is also a restrictive factor in “addressing such aspects as ethics, communications skills and learning skill” (p.268).

**Figure 10 – A Typical Classroom**



**Source:**

<http://www.northwestern.edu/provost/committees/classroom/buildings/uh.html/>

### **6.3.2 Experiential Forms of Learning Environments in Management Education**

At the other end of the spectrum of learning environments, group work and its variations may be seen as the basic form of experiential learning. Group work, although similar to what was called ‘seatwork’ in the opposite paradigm, differs from it because, at some point in the transition from seatwork to group work, what happens within the group is more important than the activity itself.

Although the concept of group work may apparently be simple, Reynolds (1994) stated that there are many differing ideas about groups. He mentions that ideas about group work range “from the popular to the obscure” (p. 44). Moreover, there are many

ways of using groups in learning. Reynolds lists, for example, role plays, discussion groups, action learning, 'experiential learning activities', 'T groups and study groups', and 'games and simulations'. Another way of using groups is in 'case studies', the most used method in management education outside the traditional lecture format (Burgoyne and Mumford, 2001). From within these forms, I am particularly interested here in 'role plays' and 'games and simulations', because they are closely connected with the PFN model.

The point that I want to stress in these two forms of group work is its characteristic which requires participants to 'act out'; that is, the participants take on roles that they normally would not perform. This characteristic is present both in role plays and simulations and is one of the main features of the PFN model as described in Chapter Two.

Role Plays, for instance, when applied to the world of work, may be used to help people recognise what kind of understanding and skills they are expected to demonstrate in the workplace, and to make them perceive situations from another person's point of view (Reynolds, 1994). Simulations, likewise, are also imitations of situations in which participants are expected to act with 'professional intentions' (Jones, 1989). In both, the concept of role is central.

Both role plays and simulations "provide participation, involvement and the opportunity for action learning" (Turner, 1992: 35). Ments (1983) adds that role plays are an "excellent way of developing interpersonal and communication skills" (p. 37) and a positive and safe environment for dealing with attitudes and feelings, especially

if the debriefing time is properly conducted. Another advantage pointed out by Ments is that students may act in a situation that is closely related to reality, and may repeat the enactment as many times as needed to acquire the required skill. This can be highly motivating, provided the role play is well designed and conducted.

Similarly, simulations<sup>1</sup> or business games are considered here as activities for the purpose of learning. In a broad sense, Taylor and Walford (1972) characterise simulation according to three aspects: a) the role players' acts and the decisions they make are based on the setting in which they find themselves; b) the decisions generate consequences; and c) the role players act again based on their reflections on the relationship between their decisions and those consequences.

In a simulation, a model of what is being simulated is essential. Kibbee *et al.* (1961), for example, define a management game as “a dynamic training exercise utilising a model of a business situation” (p. 3). Otherwise, Jones (1989) defines simulation as “a non-taught event in which the participants have sufficient information to enable them to behave with professional intent according to their roles” (p. 12) and differentiates simulation from games. In games, he states, it is necessary to have clear rules to prevent cheating. By contrast, “in simulation participants can go on strike or cheat or lie or steal and remain with the event, providing they are behaving with professional intent” (Jones, 1989: 14) and consider the future consequences of their acts.

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<sup>1</sup> Simulation, business games and management games are considered different concepts in the training and education literature. In this text these terms are treated interchangeably.

Kibbee *et al.* (1961) consider that games and simulations have two factors that differentiate them from, for example, the case-study approach: a) the objective feedback; and b) a new use of the time dimension. The objective feedback refers to the performance reports that are generated by the input decisions taken by the participants. In simulations and games, contrary to case-studies, there are real competitors: the other teams. Therefore students react to actual events, and subsequently the performance reports they receive reflect these actual events, not hypothesised situations as in case-studies.

A new use of time dimensions refers to things like “the severe time limitations to simulate the stress encountered in a real managerial situation” and the consideration both of the “present and [of] the future simultaneously. With no other teaching technique has it been possible to demonstrate so vividly the effects of sequential decision making in a business environment” (Kibbee *et al.*, 1961: 42).

Despite their success, management games and simulations have also been criticised. Mintzberg (2004), for instance, argues that management games and simulations “only compound the problems created in other courses, by giving the impression that managing is far more orderly and analytical than it really is” (p. 44).

In summary, the fact is that in management education there is a plethora of initiatives to convey the subject. It seems that management education is, as Goodyear (2000) suggests, an instance of a complex knowledge field which needs “constellations of different kinds/types of knowledge” (p.10) in order to be approached sensibly.

Having examined the theories on learning environments in general, and on certain specific forms of learning environment in management education, I will now turn to see how students perceive and orientate themselves in respect to these environments.

#### **6.4 Students' Perceptions of Learning Environments**

In Chapter Three I outlined how the literature describes students' conceptions and approaches to learning. Basically, research on the theme portrays students' approaches to learning in two distinctive ways: either in a deep approach in which students aim to grasp the meaning of the content and understand ideas, or in a surface approach in which students aim to record information in order to respond to external demands.

Similarly, I outlined in the same chapter that teachers' conceptions of teaching can also be viewed as being basically oriented in one of two ways: either as a transmission of information in which the content has precedence over the individual student, or as an activity to change individuals' understanding about the subject, in which those changes in the individual's understanding are the primary concern.

Recent research in four contrasting subject areas (Electronic Engineering, Biological Sciences, Economics and History) has demonstrated a relationship between approaches to learning and experiences of teaching, "with previous deep approaches being linked with appreciation of 'teaching for understanding'" (Entwistle, 2005: 18). Entwistle states that the analyses have confirmed and strengthened others' research (that of Prosser and Trigwell, 1999; Biggs, 2003; Ramsden, 2003; Vermunt, 2005), and that students' perception of the teaching-learning environments they have experienced influence their approaches to learning and studying, and their levels of



academic performance (Entwistle, 2005). Entwistle states, moreover, that the research provides evidence of the “importance of providing teaching staff with more detailed evidence about the ways in which students are reacting to the teaching-learning environments and going about their learning and studying” (p. 19) , a conclusion that is shared by Lucas (2001).

It is therefore important to investigate how students conceptualise and go about their studies not only in relation to the concept of learning in general, but also in relation to the specific learning environment in which they are immersed. With respect to this, I provide a description of how the literature has described this relationship between students and their learning environments, concentrating on the types of learning environments that are most used in management education.

I begin, with Griffiths *et al.*'s (2005) research, which explored what they called ‘learning shock’: the experiences of frustration, confusion and anxiety experienced by students when they are “exposed to unfamiliar teaching and learning methods, bombarded by unexpected and disorienting cues and subjected to ambiguous and conflicting expectations” (p. 276). This pattern is more likely to happen when students engage in experiential learning methods.

Although their study addresses the concept of ‘culture shock’ in international student communities (students studying in a different culture), Griffiths *et al.* note that it is not a phenomenon exclusive to international students. Any student may experience a learning shock when perceiving an inadequacy of their learning style to that required in the new learning context. As an example, they cite the case of students accustomed

to passive learning, who may be bothered by comments from fellow students which are perceived as critical or challenging to the lecturer's authority.

Despite the fact that lectures are the most common type of learning environment that students encounter in their learning experiences, research has demonstrated that students also experience lectures in varied ways. Hodgson's (1980, 1997) study into student experience of lectures asserted that, in her research sample, lectures were invariably experienced as relevant. However, relevance varied qualitatively. Hodgson (1980) stated that students experienced the relevance of lectures at three qualitatively different levels: a) extrinsic; b) vicarious; and c) intrinsic. Within each level, Hodgson elaborated different strands of experiencing relevance and, in total, developed eight categories that helped her to explain how students were experiencing relevance in lectures. The eight categories of description were:

- Extrinsic: other person's perspective, general;
- Extrinsic: other person's perspective, specific;
- Extrinsic: students' own perspective, general;
- Extrinsic: students' own perspective, specific;
- Vicarious: perceived;
- Vicarious: illustrative;
- Intrinsic: general;
- Intrinsic: specific.

An extrinsic way of experiencing lectures meant that students "seemed to regard the content only from the point of view of achieving some external demand upon them,

generally that of assessment” (Hodgson, 1980: 153). This extrinsic demand was perceived as coming from (a) another person’s perspective, in general; (b) another person’s perspective specifically; (c) the students’ own perspective, in general and; (d) the students’ own perspective specifically.

In summary, the categories stressed whom the students saw as demanding that the learning be fulfilled (another person, e.g. either the lecturer or him/herself) and how students recognised the potential material usefulness of lectures (for example, for assessment requirement or for a specific situation outside the classroom).

A vicarious way of experiencing lectures was “where either the lecturer’s perceived interest or enthusiasm for something was transferred to the student or, in discussing a particular point, the lecture provided an illustration, example etc., which the student seemed to recognise and identify with” (p. 153). The former perspective was typified as ‘perceived’ and the latter as ‘illustrative’.

Finally, an intrinsic way of experiencing lectures meant that students saw “the relevance of the content in a way which was meaningful to his own understanding and framework of thinking” (p. 219) both ‘in general’ where the student “appeared to recognise that the material had some sort of meaning and reality for his way of thinking, but he did not actively think through the exact implications” (p. 155) and ‘specifically’ where the student “seemed to be actively relating the content to his own understanding and framework of thinking, working through the implications” (p.155). In short, Hodgson identified that (a) students’ perceptions and perspectives; (b) teacher characteristics and teaching style (and students’ perceptions of these); and (c)

students' perceived background knowledge and familiarity with the subject were the major factors that may have influenced their experience of relevance of lectures, although she warned that neither of them by themselves led students to experience relevance in a specific way.

In other studies, researchers have explored the question of whether an experiential design would lead to a higher level of understanding among students when compared to more traditional methods. Pittaway (2004), for example, researched the approach of students to a venture planning course at Lancaster University. The design of the course required students to work in groups to develop a business plan and present it to local financial organisations (a problem-based design approach). There were no essays and no exams, and the groups worked on a very tight schedule of ten weeks to finish the plan. Students evaluated the course positively, especially concerning the course content, the tutorials and workshops, the level of understanding and the learning environment. One factor ranked negatively was the helpfulness of staff.

According to the data, Pittaway asserts that 'emotional exposure' contained in the uncertainty and ambiguity of the environment, in the unfamiliar activities and in the group dynamics, played a major role in creating an environment within which effective student learning could take place. The data also illustrated the importance of groups undertaking time-restricted problems (p. 22) in order to have a significant impact on student learning.

Pittaway concluded that students' reflections on the experience demonstrated that the problem-based approach encouraged learning through experience. This enabled

students to learn incrementally through the process. Also, the structure and dynamic of the course shaped an attitude of ‘emotional detachment’ from reality and helped students to develop an impression of the entrepreneurial environment. Finally, the learning design encouraged “adaptation; decision-making; linkage between management theory and practice; learning through experience; and, the convergence of disparate management knowledge” (p. 23).

In summary, these studies demonstrate the complexity of the learning experience, and show that “students’ approaches to learning are related to their perceptions of the teaching context [which] has led to a growing recognition that it may be possible to alter the teaching and learning context in order to improve the quality of learning outcomes” (Lucas, 2001: 162). However, as Griffiths *et al.*’s (2005) conclusions reveal, there are undisclosed facts in learning environments, which bring students “misery, anxiety, insecurity and aggression” (p. 292), and that even work groups (a generalised process especially in management education) can be “characterised by exclusion and aggression, becoming a major source of learning shock” (p. 292).

The review of the literature on learning environments shows us that there are still many challenges that designers should face in order to construct ‘powerful learning environments’. The statement is true not only if we consider knowledge as a commodity to be transferred to students’ heads, but especially if we problematise the nature of knowledge. In professional education we should add another dimension: the relevance of what is learned to students’ near future work routine. The question in this research is about how students perceive this relevance in the case of the PFN model.

## 6.5 Summary of Chapter Six

In this chapter, I researched the literature on learning environments and their use. Improvements in educational technology and changes in student profiles have challenged academic staff to devise more flexible and student-centred learning environments. The concept of learning environment was defined as being composed of three sets of characteristics: the physical environment, the activities occurring in the environment, and the features that link the elements in the environment.

A brief look at the journals is enough to note the many alternative ways that have been proposed to deal with the question of how to be innovative in learning environments. There is an abundance of publications, offering insights such as how to be innovative in lectures, how to teach with and through teams, how to improve group dynamics and performance and how to use case studies, business games and simulations (Vance, 1993). However, the literature concerning the concept of learning environment is not yet adequately consistent in researching how students approach learning environments.

Another point is that, in management education, the literature has centred mainly on researching MBA students, and has not paid much attention to young students. These studies have also taken for granted generally the context and the situation in which the learning experience occurs. As the importance of management education has increased in the lower stages of the educational process, research on these levels of schooling is needed. Moreover, research should not search for generalised rules applied to all learning experience, but instead pay attention to the specificities of each

subject, or what Hounsell *et al.* (2005) called Ways of Thinking and Practising (WTP).

In this research, I propose the study of how students of two educational institutions in Brazil experienced and described their relationship with a specific model of management education: the PFN model. To understand how the literature has described this model, in the next chapter I will explore the concept of the PFN.

## **7 Chapter Seven**

# **The Practice Firms Network Learning Environment Concept in the Literature**

### **7.1 Introduction**

As I have already reviewed some significant theoretical concepts regarding the context of a learning experience in Chapters Four and Five, and regarding the learning environment in Chapter Six, in this chapter I will examine the literature concerning the concept of the PFN. The aim of this chapter is to locate the PFN concept within a broad literature on the subject of management education and learning, and to show the many challenges that arise for learning environments in management education, such as the PFN, which try to be a link between the world of learning and the world of work (Merriënboer and Paas, 2003).

As the PFN model is a new concept in management education, there are few theoretical works on it; In English, I could trace only four papers concerning the model. Even though the concept originated in Austria, there are also few works in the German language. The works in English that I found were: “The Value of Work-based Learning: a study of the Practice Firm” (McNickle, 2000); “Practice Firms without Strategies? An approach to promote further development of PF through TQM” (Trummer, 2002); “The Advantages and Disadvantages of Learning and Teaching in a Practice Firm” (Gramlinger, 2004); and “Learning in Complex Environments”



(Trummer, 2004). The other work that I will cite here is from a private communication: a written version of a seminar presented by Dr. Tade Tramm from Gottingen University, which was not published. In this chapter, I will look in great detail at this small number of theoretical works on the PFN concept.

At the end of this chapter, I argue that the theoretical analyses carried out on the PFN concept up to now are essentially based on a first-order perspective, and that research that looks at the model from participants' points of view is needed. In particular, my research looked at the PFN model from a student's perspective.

## **7.2 The PFN Concept in the Literature**

There are some works on the PFN concept in the German language, to which I did not have access due to the language barrier. Nonetheless, Elizabeth Wurtz, a colleague at the University of Graz, Austria, provided me with a brief description of the content of two of these works in a personal correspondence. I begin this chapter with her brief commentary on these books, and then I discuss the literature available in English.

In the first book, "Auf dem Weg zur lernenden Übungsfirma - Weiterentwicklung der kaufmännischen Übungsfirma mit Total Quality Management" ("On the way to the learning Practice Firm - Further development of the commercial Practice Firm with Total Quality Management": Berchtold and Trummer, 2000), the authors present the basics of Practice Firms, concepts of Total Quality Management (TQM) and a special section on building blocks for further development in Practice Firms.

The second book is, “Firmenchronik der KFUNIline Übungsfirma-WeiterbildungsGmbH 1996 – 2003” (“Chronicle of KFUNIline Übungsfirma-WeiterbildungsGmbH 1996 – 2003”: Trummer *et al.*, 2003). In this book, the authors present a chronicle of a Pfu at the University of Graz, Austria. Alongside the history of the Pfu, it contains an introduction to Practice Firms in general, an introduction of TQM concepts and a chapter about TQM in a Practice Firm.

From the literature written in English, I would like to begin the discussion of the concept of the PFN model with Gramlinger’s (2004) definition of the PFN as a ‘place’ of learning with the following characteristics. It

- Simulates an enterprise;
- Emphasises the enterprise’s commercial activities and procedures;
- Participates in a national and international market, which is a real network;
- Has employees who are students who work and learn within the office environment;
- Deals with fictitious goods and services and fictitious flows of money;
- Uses modern communication technologies for genuine communication with employees of other PFs (p. 82).

The PFN defined as ‘place’ emphasises the physical characteristics of learning environments as commented on in the literature in the previous chapter (Wilson, 1996;

Illeris, 2002). It also acknowledges that as a 'simulation' of real environments (or organisations) the PFN model is inclined to mirror the features of these target organisations. The use of terms such as 'commercial activities', 'market', and 'employees' stresses this link. Nevertheless, an interesting feature of this definition is the use of words like 'simulation' and 'fictitious', and quite contrasting ones like 'real' and 'genuine'. This mixture is intriguing and it could be questioned if it really works.

In a similar way, Trummer (2002) defines a Practice Firm as "a learning place in which real-life business work under the circumstances of the market in a 'training economy' is done" (p. 50). In a 'market-economic environment', Trummer adds, "the practice firm can be likened to a pedagogical learning-place in which procedures similar to those in real companies [are] executed" (p. 50). According to Trummer, the aim of the learning environment is to simulate "as realistically as possible" the economic system in a national and international network.

Nevertheless, the features and aims of the PFN model as defined by Trummer above can be accused of being prescriptive and institutionally biased. These features and aims may not be describing what students actually believe about the learning environment, or what students are really doing in it (Goodyear, 1997).

Another definition is provided by Tramm (2002), who defines the PFN model as "complex and dynamic models of economic systems, arranged for the goal of learning" (p. 10). The author links the PFN model to commercial vocational education that "to exist in the future has to prepare people to orientate themselves in complex

economic contexts of systems and to act competently and responsibly within these” (p.4). However, what is supposed to be the “goal of learning” of the PFN as mentioned by Tramm? According to Tramm (cited in Gramlinger, 2004), the PFN model may have three different goals depending on the learning purposes of the institution. The concept of the PFN as:

- 1) A place for concentration and practice;
- 2) A place of training for practice;
- 3) A genuine learning place.

Tramm states that the concept of the PFN model as a place for concentration and practice has a long history and comes from the original idea of the “Übungskontore”, which combined the three central skills of the merchant: bookkeeping, calculation, and correspondence, and which involved reinforcement of these skills through practice.

The other idea – the concept of the PFN as a place of training for practice – is very similar to the previous one; however it derives from the traditional belief that, by practising, students are being prepared to use specific skills that they will need in the workplace. The range of skills that could be practised in these learning environments would comprise both technical and social skills. This view of the PFN model has a strong link with, for example, Holman’s (2000) model of management education as ‘experiential vocationalism’, with emphasis on the provision of competent managers through the development of interpersonal and technical skills.

The third concept, that of the PFN as a genuine learning place, “means that one speaks not only of a Practice Firm, but also of a **learning firm**” (p. 85; emphasis in original). In a learning firm, students learn not only the things that they are supposed to learn in the learning environment – things that were prepared and brought to be learned in the model by the pedagogical staff – they also learn from the learning environment. As social constructivist theories have stressed, context and resources within the learning environments are crucial for learning, since learning is an improvement in the ability to interact with people and things in a situation (Greeno *et al.*, 1993; Seel *et al.*, 2000).

Working on a different epistemological basis, however, Gramlinger (2004) considers that the PFN concept can be treated as a model. As a model, the PFN allows:

1. Simplification, reduction and even minimisation of some characteristics of the real thing;
2. Emphasis on certain aspects of the original;
3. Complementation and addition of things and situations that do not exist in reality.

Gramlinger adds that, in operation, the PFN becomes a “dynamic model” which allows students to train not only “their economic, business, technical and electronic data processing (EDP) knowledge and skills but [also] ... develop and extend their social skills, organisational abilities and their attitude towards work” (p.81).

When the PFN model is treated as a model, it can be linked to Schön’s (1987) concept of ‘practicum’. A practicum, according to Schön, “is a setting designed for the task of learning a practice” (p. 37), but in a way that frees the practice of dangerous

consequences. In this context, students learn ‘by doing’, with tasks that resemble aspects of the real world. Some tasks may even be real demands from the real world, with students performing them with close supervision of teachers. However, some of these tasks may fall short of the real world.

Additionally, Tramm observes that, to be action-oriented learning, the learning objects should be “really analogous to the crucial features of the corresponding reality, so that they are not contrary to the students’ everyday experience” (Tramm, 2002: 9). This congruence of practice and corresponding reality poses a problem for the PFN model. As Schön (1983) observes, the concept of practice is ambiguous since it may refer to the performance itself, or to the preparation for a performance.

In the first case, as Schön puts it, the “practitioner experiences many variations of a small number of types of cases, [so] he is able to ‘practise’ his practice” (p. 60). In the second case, practice refers to a rehearsal such as “when we speak of someone practising the piano” (p. 60). When viewed from within the management world, this picture is yet more complicated because management and, in consequence, management education are still problematic concepts (Cunningham and Dawes, 1997). Therefore, what constitutes acceptable and good examples of practice that practitioners could effectively carry out in both senses of Schön’s characterisation of practice is not fully determined.

Tramm also recognises these difficulties; to further the development of the Practice Firm concept, Tramm (2002) states five propositions. According to Tramm,

**1) The Practice Firm should be not an imitation of a real firm as a place at which to learn, but a place of its own character for that purpose.**

This is a powerful proposition which goes beyond Schön's (1987) concept of 'practicum'. It opens the concept up to innumerable possibilities of reification in which some of them could be transferable to reality. Those which failed, however, would not cause 'real' damage, due to the pedagogical nature of the concept.

**2) Learning within the model and learning by the model would characterise, by mutual interaction, the learning potential of the Practice Firm.**

Tramm considers that there are two levels of learning in the model: learning within the model and learning by the model. The students learn *within* the model by *performing in* the model the various activities that they are required to carry out. They should "carry out actions and accomplish findings which cannot be done within the original firm ... [and at the same time, acquire] ... abilities and insights ... with the model [that] can be transferred to reality" (p.10).

However, this should be kept distinct from the possibility that in the PFN one can learn *by the model*. Here students learn by *experiencing with* the model, in the sense that they can undertake experiments and tests within the model without risks. Tramm adds,

If you want to avoid in the students' mind a confusing mixture of the experience with the model, the everyday experience and the theoretical knowledge, the results learned by the model have to be made an object of systematic reflection right from the beginning (p. 11).

Nonetheless, the formula of this combination seems complex. To learn within the model, the students have to follow the procedures of the existing routine. To learn by the model, they have to break those rules. This may confuse and mislead the apprentice. To avoid this, Tramm says that what is needed is “reflecting acting”. According to Tramm, (cited in Gramlinger, 2004: 84), “reflecting acting” means that “theory should not be absent but, in order to allow an integrated curriculum, practical and theoretical learning should take place”. Nevertheless, again, this seems to be a description of an ideal world; the question is that of how this could work effectively in practice.

**3) The Practice Firm should be more than an office – the learners should always keep the whole model enterprise in mind.**

With this proposition, Tramm warns that some teachers use the model in isolation, without considering the network as a whole and without consideration of the purposes of the activities operated in the model. The PFN model and the activities of students with each Pfu only gain meaning when operated and experienced as part of a complex context of functions and goals.

**4) The work in the Practice Firm should be emphasised as a sensible activity for the total model company – the reference to function and goals should be focused on.**

This proposition follows the previous one with an emphasis on the consistency of the activities in the model. As Tramm observes, there is no sense in carrying out activities and procedures in the model if the results are ignored. Tramm exemplifies with a



study in which he observed that in some Practice Firms, data from the book-keeping function pointed to the need for immediate action. However no such action was taken.

**5) Didactic reduction of complexity to ease learning should not destroy the structures of meaning and context.**

Here, Tramm acknowledges that ‘meaningful learning’ and ‘learning in pieces’ are incompatible if the aim is to understand complex contexts, as is the case in the business world. There is no benefit from sequential knowledge, either. Therefore, in the PFN model, the development and testing of solutions to the challenges faced should be the responsibility of the student. Moreover, the daily routine work within a Practice Firm is necessary, but it should be completed with some form of ‘discovering learning’ and ‘problem-solving learning’.

These complex and challenging features of the PFN model make Gramlinger (2004) recognise that the model has pros and cons. Some of the pros result from the model aspect, as it allows things like ‘no entrepreneurial risk’, ‘allowance to make mistakes’ and ‘discontinuity of time’. On the other hand, Gramlinger (2004) also recognises that these same features generate some cons. Some of these cons refer to things such as ‘insufficient working time’, ‘incompleteness of the model’ and ‘new demands on the academics’.

On the pro side, for instance, ‘no entrepreneurial risk’ refers to the fact that, in the PFN model, students do not start up real enterprises so, they are not putting at risk any financial or physical assets of their own or of others. At the same time, as they are not expected to create any real products, they will neither need to maintain stocks nor deal

with real money. Thus, there is no 'entrepreneurial risk'. With respect to 'no entrepreneurial risk', the author concludes that, in the PFN model, the student is 'allowed to learn by his own mistakes', in the sense that those mistakes are not harmful.

'Discontinuity of time' is another important pedagogical feature of the model. It refers to the fact that, in the PFN, time can be adjusted to fit learning necessities. For example, it can be arranged to run one month in a week or a week in one day. It provides unlimited possibilities for modelling, adding, omitting, simplifying and testing situations in the model.

On the con side, however, the author states that the model is run in 'too little working time'. "Most of the Practice Firms in schools operate just once a week. The long intervals between one working session and the next can cause difficulties" (Gramlinger, 2004: 87) in reaching one another, and on the resemblance to a real enterprise.

Another drawback, according to Gramlinger, is that of incompleteness of the model. This refers to the fact that if leaving out some variables, such as real products and real money, assures security and the possibility of learning through mistakes, at the same time it may encourage some ad hoc decisions to be generated. For example, the lack of a real product, and the utilisation of non-realistic 'imaginary costs' to pricing, make the definition of stock costs unrealistic or even impossible.

In the end, students may see the educational environment as a play setting, misconstruing its educational purposes. The activities generate a learning environment where students may deduce that “learning [is] a play – not serious”; “nothing can really happen”, “this is “not reality” and it is “only playing around” (p. 8).

The model still creates ‘new demands on the academic body’ both for students and teachers. It creates new sources of conflicts among students, that teachers are not expected or prepared to deal with, and a highly demanding environment for the teacher “including different contents, a new social setting and a new role” (p.88).

To confront some of these problems, Trummer (2004) has researched how the concept of Total Quality Management (TQM ) could be applied in the PFN model and “how to transform or develop the Pfu to make it a Learning Pfu in analogy to the Learning Organisation” (p. 91). Trummer works with the presumption that a Pfu should be seen both as an enterprise and as a learning environment. Her work attempts to transfer organisational concepts such as “change, transition, improvement and transformation” to the complex teaching-learning context of the PFN.

Despite the cons of the PFN model, McNickle (2000) observed in her research that Business Partners (see this concept in Chapter Two) in Australia applauded this concept, and hoped it could be expanded. The Business Partners also stated that “Practice Firms should take the place of general work experience ... [and that they would be willing] ... in supporting this type of training” (p. 13).

In McNickle's (2000) research, from the point of view of Business Partners, the PFN had the following benefits:

For the students:

Students who have had experience in Practice Firms would be better qualified, experienced and business oriented people;

Students from Practice Firms that had been partnered were employable;

Employment of Practice Firm graduates reduces induction time, not only about the organisation's ethos and its products or services, but also in the more detailed processes used at the operational levels (p. 11).

And for the Business Partners themselves:

It allows businesses to reflect on their practices and procedures as the Practice Firm mirrors their business – often allowing them the opportunity to change;

Businesses also gain new insight into their businesses due to ideas from students; some of the Practice Firms had taken on ideas and procedures that students had identified (p. 11).

In summary, McNickle concluded that the experience had the potential to build up a real training partnership between the students and industry and that “from a business

perspective, Practice Firms should save the business partner a considerable amount of time and training when they employ[ed] graduates from a Practice Firm” (p. 13).

Nevertheless, this kind of experience cannot be generalised. Although the PFN can be treated as a unified concept, it should be clear that there are variations within the model. Each Central Office (see this concept in Chapter Two) has relative authority in its own country to adapt the model to the national and regional characteristics and needs. What is problematic, Tramm (2002) argues, is that sometimes this adaptation is made contrary to the actual purposes of the model. To illustrate, he describes the following case:

in a Practice Firm in Bavaria I became acquainted with the concept of ‘directing the work in a Practice Firm by working instructions’. Every student finds extremely detailed descriptions of the procedures for each activity at his workplace, including examples of the forms he has to use. The work is mainly done in a way that for a certain operation the suitable working instruction is looked for, at first, and then it is worked up step by step. In the end, it might be done even without a written example. But, I suppose, the colours of the used forms may never change. This is, I think, a very problematic variation! (I just would like to say: a ‘bavariation’) (p. 15).

In short, it seems clear to me that the PFN as a new concept and a new site for engaging in a learning experience in management education is still ambiguous and conflicting. On the one hand, from the literature researched, the PFN model seems to

create ambiguity between an old and a new paradigm in management education, with inconsistent demands on students, teachers and institutions generating new types of conflicts among these elements. On the other hand, the model follows the current demand in the learning literature for learning environments with flexible and student-centred educational methods.

Having produced this literature review, it became clear to me also that the PFN concept – from an institutional discourse as described in Chapter Two, and from the theoretical work on the concept as shown in this chapter – was relevant, although these discourses were just part of the story. The literature neglected the voice of the participants. What would teachers' understanding of the model be? What would students' concepts of the model be? Would students perceive the same kind of relevance of the PFN model as in Hodgson's (1997) research about the relevance of lectures to students? My research is an attempt to fill one aspect of these gaps in the knowledge base of the concept of the PFN: specifically, students' perception of the PFN model.

### **7.3 Summary of Chapter Seven**

Education in general and management education in particular have struggled to find ways of promoting learning that go beyond the traditional 'classroom-based experience'. I explored this theme in Chapter Five. In this chapter, I tried to show that the PFN model is another of these attempts to bridge the gap between the world of learning and the world of work (Merriënboer and Paas, 2003). I also outlined the main points of the available literature on the concept of the PFN. I have stated that this

literature is scarce and mainly directed to the Austrian experience, because of the origin of the model.

The literature, in general, treats the PFN as a model for offering commercial vocational education in which business situations may be simulated. As the literature review showed, the PFN model has advantages and disadvantages. The main advantage seems to be ‘the lack of risk’, since the products and the money in the model are not real. At the same time, some disadvantages seem to be inherent in this ‘lack of risk’, such as ‘a lack of commitment’ by students who perceive the model to be a game and know that nothing really serious can happen.

However, the literature concerning the model still fails to provide a comprehensive picture of this learning environment. In particular, it fails to provide a picture of the model from the point of view of its participants. For example, how do students perceive the learning environment? What images come to their minds when acting in the model? And what can the configuration of students’ perceptions of the PFN model inform us about learning, especially about management learning in the strict sense in which the concept was defined in Chapter One? This is the particular gap that my research will aim to bridge.

However, I will postpone the description of students’ perceptions of the PFN until Section Four, and the debate about the consequences of their approaches to management learning until Section Five; first I will turn to the methodological approach which I used to research my phenomenon of study. This will be described in the next section.

## **8 Chapter Eight**

### **The Methodological Approach**

#### **8.1 Introduction**

In this chapter, I describe my search for a methodological approach, and how I came to decide upon phenomenography as the most appropriate approach to my research. I begin the chapter with a brief description of the difficulties I had finding a methodological approach that could accommodate both my original and my newly-acquired conceptions on research.

I then move to define phenomenography, and justify it as a useful methodological approach to achieve my objective in the case of my object of study, claiming that the phenomenographic method has an intrinsic link with educational studies, providing a consistent interpretative framework to construct participants' conceptions of the object of study.

Finally, I define and explore the concept of phenomenography, its main characteristics, and how these characteristics relate to my research process. The discussion of how I applied phenomenographic concepts in my research, however, is covered in the next chapter.



## 8.2 Finding a Methodological Approach

From my initial readings of the literature (for example, Morgan and Smircich, 1980; Gill, 2002; Baker, 2003; Marton *et al.*, 1997; Mason, 2002), it was evident that finding a coherent approach to methodology would be an important and difficult task. This search not only required me to determine which methodology would be a suitable tool to accomplish my research purpose, but it also involved the questioning of some of my beliefs and my way of thinking. One of the major problems in these shifts of direction was that the process was neither immediate (at least it was not for me), nor unidirectional. It took me some time to assimilate and accommodate the changes.

The search for a methodological position that accommodated the conflicts between my previous beliefs and the new ones that were arising during the process of researching was, perhaps, the most difficult task which I encountered on this journey. As the process of my research unfolded, I moved away from a very positivist way of seeing the world and came closer to a more phenomenological one. I had always had a problem in accepting the major tenets of the positivist paradigm, especially its reductionist methods and the necessity of knowledge generalisation. However, given the dominance of the positivist paradigm in my surroundings, I arrived at Lancaster with uncertainties about the alternatives and how to explore them.

To illustrate this position, I remember the first research proposal which I submitted to my supervisor. It outlined my intention to present questionnaires to students and measure how students' conceptions of the world varied in certain aspects. The application of 'scientific methods' and the discovery of generalisations in this social world were my initial implicit objectives in the research.

As I explored the literature, I perceived alternative ways to deal with methodological issues. My previous positivist assumptions were admittedly not very satisfactory, yet, at the same time, I did not feel very confident and comfortable with some 'idealistic', interpretative or post-modern approaches that I encountered in the literature.

A possible path towards resolving this issue was to construct a bricolage - "a pieced-together set of representations that fitted to the specifics of a complex situation" (Denzin and Lincoln, 2000a: 4). A bricoleur perceives that, across all methodological theories, there are basic elements that are repeated again and again, and that at times, where the interpretations of some authors diverge, the reason seems to be less a difference in the nature of the concepts themselves and more on different perspectives and intellectual disputes. Despite the fact that this multiple-perspective approach has advocates, it is rejected in some research communities. These communities believe that "knowledge can only be advanced through particular methods" (Dunkin, 2000: 138).

At the end of the journey, I feel that I still retain some positivistic assumptions (which, in fact, I call my realistic, or positive, perspective). As a result, a tension or conflict may sometimes appear evident in my approach. As I now see that a unique and consistent approach to reality is untenable, or at least a distant objective, I consider that this conflict is inevitable. I hope that I make my methodological position clearer during the development of the work and in the presentation of apparently contradictory paradigms or concepts which sometimes I have used.

### 8.3 Methodology

I will refer to the term methodology here following not only Blumer (1969: 23), who defines methodology as the “principles that underlie and guide the full process of studying the obdurate character of the given empirical world”, but also in a similar way to Sloman (1999) and Reber (1993). Sloman states that methodology is normally used concerning “the study or description of the methods or procedures used in some activity” (p. 525-6). According to Reber, methodology has an intentional purpose and is concerned with “the methods and procedures by which [...] knowledge and understanding are achieved” (p. 457). Moreover, *method*, following Blumer (1969), was defined here as” ... instrument(s) designed to identify and analyse ... the empirical world” (p. 27), and *procedures and techniques* were considered as “precise, specific programme(s) of action which will produce a standard result” (Checkland, 1999: 162).

Bearing these views in mind, I split the phenomenon of researching into two entities: on the one hand is the *agent of research*, the knowledge-seeker agent or knowledge-builder agent, depending on the epistemological perspective; on the other hand is the *phenomenon of study*, or the issues towards which the attention and disposition of the former is directed. In social sciences, when the research adopts a phenomenological approach, a third element is added to the research process: the subjects of research. Subjects of research are those who will provide the fundamental information – oral, written or behavioural – to constitute the data of the research.

This division and the relationship between its parts are seen as problematic and widely criticised, particularly in post-modernist texts (Richardson, 2000). To post-modern

writers, researcher and researched cannot be separated completely. The researcher is a human being; an historic agent who has engaged in this process in the course of his or her life history. Therefore, all that the researcher is; that s/he believes; the things that s/he brings into the process and even what and how s/he defines as the phenomenon of study is culturally influenced and also influences the ways of conducting the research. This makes the phenomenon of study in the social sciences a much more complicated phenomenon than, for instance, in the natural sciences, where, arguably, the object of study may be completely separate from the researcher. Despite this dispute, even among social researchers this division is widely acknowledged and, therefore, I will rely on it in this research.

Methodology, be it a reference to principles of reasoning, formulation of methods and procedures, or a means to the acquisition of knowledge, was defined in this research as any aspect that mediates the relationship between *researcher* (myself), *phenomenon of study* (the concept of the Practice Firms Network Learning Environment), and *subjects of research* (the interviewees). I tried to reflect and act consciously on every aspect of this relationship, and in all the choices that I had to make to answer my research questions and achieve my research aims. I also tried to justify choices and apply them diligently and consistently because, as Morgan and Smirrnich (1980) argue, the link between all these terms is essential. Social researchers need

to approach discussions of methodology in a way that highlights the vital link between theory and method – between the world view to which the researcher subscribes, the type of research question posed, and the

technique that is to be adopted as a basis for research. All these issues are related in the most fundamental of ways (p. 499).

After considering many methodological possibilities that were available in the literature, I decided to take a phenomenographic approach within this research. I considered phenomenography an appropriate approach for at least three reasons.

Firstly, the birth and rise of the phenomenographic approach is intrinsically connected to educational studies. Phenomenography was first developed by a group of educationalists at the University of Göteborg, Sweden in the mid 1970's. "Describing the variation among ways in which phenomena appear has characterised the phenomenographic project since the term, phenomenography, was adopted" (Dall'Alba, 1996: 8).

Secondly, as Marton and Booth (1997) stated, "at the root of phenomenography lies an interest in describing the phenomena in the world as others see them, and in revealing and describing the variation therein" (p. 111). As I have stated, this is considered important in education because education deals with change in human conceptions. Therefore, understanding the current conceptions which students hold about phenomena in the world facilitates the task of changing or enhancing those concepts. As argued by Dall'Alba (2000),

having knowledge about current and desired understandings is likely to make teaching and educational development more focused and effective. It gives direction to our attempts to bring about change. It also provides

us with a basis for establishing the extent to which we have been successful in encouraging changes in understanding. That is, it gives us an indication of the change we desire and whether that change has occurred (p. 99).

A final point that made me consider phenomenography as an adequate approach was that it does not aim for correct or incorrect views of the world and is not interested in classifying some experiences as more significant than others. The aim of phenomenography is not “to classify people, nor is it to compare groups, to explain, to predict, nor to make fair or unfair judgments of people” (Marton, 1981: 180). Each experience is considered legitimate in its own right and should be considered equally in comparison to any other experience. In some phenomenographic studies, where a ‘correct’ answer may be expected – for example in physics studies – the presence of a ‘wrong’ answer might draw the attention of the researchers in such a way that they wish to explain how the respondent arrived at that ‘incorrect’ answer or why the respondent thinks that way.

Therefore, in my study, there is not a correct answer to the question “how did you experience the Practice Firms Network learning environment?” Whatever the answer is, I am still interested in mapping and understanding the relationship between the object of experience and the student’s particular way of thinking. Therefore

If we are interested in how people think about [in this case, the concept of Practice Firms Network Learning Environment], then we have to investigate this very problem because the answer cannot be derived

either from what we know ...about the general properties of the human mind, or from what we know about the school system, or even from the combination of what we know about both (Marton, 1981: 178).

#### **8.4 Understanding Phenomenography**

Phenomenography can be defined as an empirically-based approach to research that aims to identify the qualitatively different ways in which people experience, conceptualise, perceive and understand various kinds of phenomena (Marton and Booth, 1997; Bowden, 2000). Therefore, the aim of phenomenography is not the individualised description of experiences but the construction of an ‘outcome space’, (as will be discussed further below) in a way that those experiences can be linked structurally to each other.

Phenomenography links the researcher, the phenomena researched, and the subjects researched in a second-order perspective. This means that what phenomenography does is to describe “what the researched subjects think something is” differentially from a first-order perspective that is interested only in describing “what the phenomenon researched is”. In the first-order perspective, “the ways of experiencing the world, the phenomena, the situations, are usually taken-for-granted, tacit, transparent” (Marton, 1996: 185). In the second-order perspective, these ways of experiencing the world, the phenomena and the situations are not taken-for-granted; instead they are made the phenomenon of study.

According to Marton (1986), and Säljö (1997), phenomenography has been applied to three different kinds of projects: projects that aim to understand ‘learning in general’,

such as those conducted by Marton and Säljö (1976a, 1976b); projects that explore basic academic concepts in economics, physics and so on, such as the concept of force studied by Johansson *et al.* (1985, cited in Marton, 1986); and studies that are interested in describing several aspects of people's reality, such as studies of political power (Theman, 1983, cited in Marton, 1986), competence (Sandberg, 1994) and others. Nevertheless, I would argue that my research applies the concept of phenomenography to a different kind of subject matter. This fourth type could be described as 'description of people's surroundings' or 'description of complex environments in which people are immersed'. Similar studies are those of Hodgson (1980) on the approaches of students towards lectures, and Ashwin (2006) on the approaches of students towards tutorials.

Although all these studies are legitimate phenomenographic interests, I want to stress here the distinction between a "pure phenomenographic interest" and my "developmental interest" in phenomenography. A "pure phenomenographic research" generally begins with a 'no purpose beyond the description of a phenomenon in the world' and generally stops at the stage when the description of the categories in which the phenomenon was understood has been reached. The tentative approach to link the research outcomes to actual problems is not made, or is left to others to attempt to establish (Bowden, 2000).

On the other hand, a developmental approach to phenomenography "seeks to find out how people experience some aspect of their world, and then to enable them or others to change the way their world operates..." (Bowden, 2000: 3). As Bowden adds, "it usually takes place in a formal educational setting" (p. 3), using people who have experienced the phenomenon.



This case for a developmental phenomenographic approach applies to my research because one of the aims of the research is to disseminate the results to people who use the learning environment – the PFN – especially designers, teachers and operators of the model. They may use the outcomes of the research to construct a better understanding of the model, to assess, and to develop it. They could also improve their support to students by understanding better the rationale used by students to deal with the model. The outcomes of this research may be also useful to understand how students deal with models that try to imitate the real world in general, as is the case of the PFN model.

I will now explore the main concepts of the phenomenographic approach before I explain, in the next chapter, how I used these concepts in the specific case of my research.

#### **8.4.1 The Concept of Intentionality**

The first concept that is important to take note of in phenomenography is the concept of intentionality. Intentionality is the phenomenological principle “denoting that consciousness must be understood in terms of what a subject is aware of in being aware of something” (Uljens, 1996: 106). Intentionality is the notion that all that is “psychic” refers to something that is beyond itself (Marton and Booth, 1997: 84). Thus, to know, to understand, and to perceive requires something to be known, to be understood, and to be perceived. This directedness of consciousness is towards a phenomenon and it is this directedness that is made the unit of analysis in phenomenography. In this perspective, Marton and Booth argue that there is no meaning in taking a dualist view of the world. Being a relationship, the awareness of

the world is neither “mental entities” hidden in people’s minds, nor “physical entities” out in the world (Marton and Booth, 1997).

What subjects generally do within phenomenographic enquiries is to describe these relationships as they experienced them. Thus, descriptions of experiences

are not psychological and not physical. They are descriptions of the internal relationship between persons and phenomena: ways in which persons experience a given phenomenon and ways in which a phenomenon is experienced by persons (Marton and Booth, 1997: 122).

This ‘way of experiencing’ is the ‘what’ aspect of experiencing. However, experiencing is also to ‘experience something in a way’. This is the ‘how’ aspect of experiencing. Taking the verb ‘to learn’ as an example, Marton and Booth (1997) state that “‘to learn’ has to have two objects: ... [the what and the how]; the former referring to the type of capabilities the learner is trying to master ... the latter referring to the experience of the way in which the act of learning is carried out” (p. 84).

#### **8.4.2 The Concept of Relationality and the Object of Study**

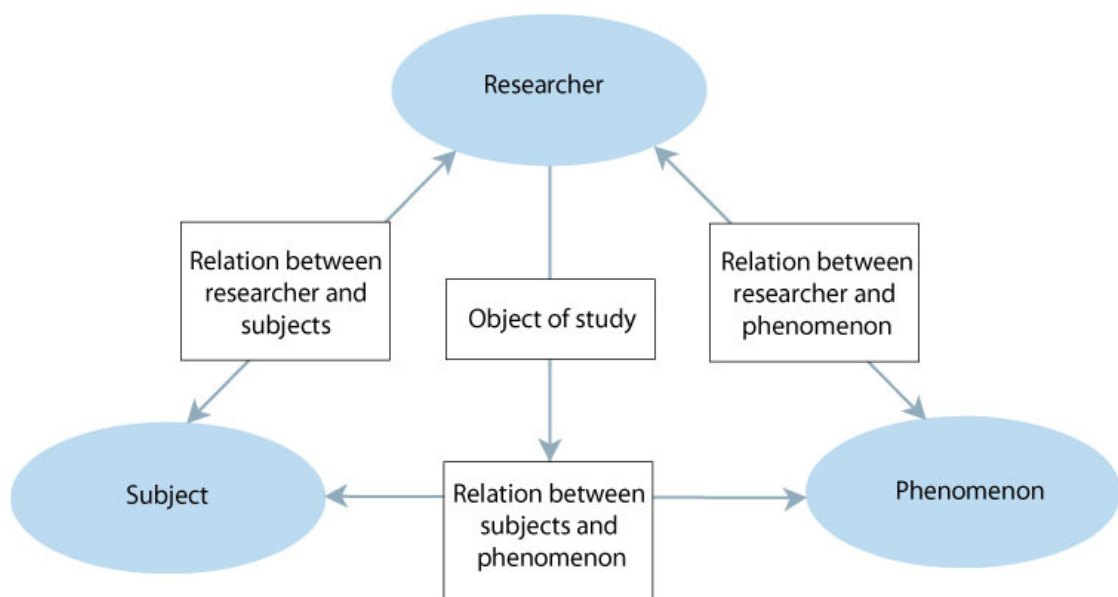
As I have noted above, carrying out a phenomenographic study has to take into account three types of entities: the researcher, the phenomenon of study, and the subjects who have experienced that phenomenon. The relationship between these three types of entities is as presented in figure 11. It should be stressed that “the object of study in phenomenographic research is not the phenomenon being discussed per se [or the relations between researcher and phenomenon, or relations between researcher

and subjects], but rather the relation between the subjects and that phenomenon”

(Bowden, 2005: 12).

This relational position is the reason why researchers should step back in the research process, especially in the data production phase. They are encouraged not to contaminate the data with their own views on the phenomena, and not to construct meanings that are not supported by the subjects.

**Figure 10 – The Phenomenographic Relationality**



**Source: Bowden (2005)**

In order to accomplish that, researchers should develop “an identical opening scenario” (Bowden, 2005) for approaching the subjects, and conduct the process in similar ways. This is especially important when researchers are working in teams and more than one is responsible for the interviews. Although, in my case, I was a lone

researcher in this work, I always took this into consideration and always tried to apply a similar ‘opening scenario’ to my interviews using what I called ‘an introductory letter’. I explore and illustrate this process in the next chapter.

### **8.4.3 The Empirical Approach**

Phenomenography has an empirical orientation and an inductive nature (Åkerlind, 2002a, 2005b; Bowden and Green, 2005). Interviews, observations, documentation and other methods used should generate the material that will constitute the data in phenomenographic research. Interpretations and findings should be grounded in these raw data (Green, 2005).

To achieve this, the researcher should read and re-read the data generated many times, in order to become familiar with it (Barnaclay, 2005). At the beginning, the data may be confusing and its concepts appear indistinguishable. At this point, the researcher should be as open as possible to consider the range of possibilities in interpreting the data. The researcher should also maintain an interactive process with the data, in the sense that readings may give rise to meaning and interpretation and, conversely, meaning and interpretation should be checked against the data to be validated.

Hopefully, this process will conclude with a stable set of categories of description. When possible, the set of categories that were generated should be checked by an independent judge, although some authors argue that this checking is very difficult, since only the constructor of the categories could totally grasp the relationality contained between the categories and the data (Sandberg, 1996).

#### 8.4.4 The Variation Theory

Phenomenography is made possible and relevant because the content of the relationship between subject and phenomenon of study is different for different subjects although the phenomenon to which the experience points is identical. The point of departure of phenomenography begins then with the puzzling question “how can people experience differently something that is identical?”

Each [one] will discern, at any one time, different elements of the phenomenon and the situation. Some will be aware of some relationships between the elements of the situation; others will be aware of, or discern, other relationships. For some, particular features will be to the fore; for others, other features will be. How people layer their awareness and understanding of phenomena and situations affects their ‘way of experiencing’ those phenomena (Dunkin, 2000: 141).

Marton (1981) recognises that describing variation of characteristic features of a phenomenon is not unique to phenomenography. In fact, the literature contains many cases of how descriptions of phenomena vary “between, for instance, different cultures, different developmental levels or between different clinical states ...” (p. 188). In these studies, however, the interest is in “the source of variation and not the variation as such ... it is however, the very **commonness** of the perspective which has not been given attention ...” (Marton, 1981: 188, emphasis in original).

Nevertheless, the variation does not correspond with a one-to-one representation of the subject’s description of the phenomena in the sample. The variation is a “limited

range of different ways of experiencing”, that gives rise to a theory of variation. Moreover, phenomenography does not aim for “generalisations or universal statements” (Bowden, 2005: 17) based on this variation. What a phenomenographer is looking for is the range of variation in conceiving, or in ways of experiencing, a phenomenon within a sample of subjects which helps to understand the phenomenon. Unlike research surveys, for example, in phenomenographic research it is not important that some categories have appeared in  $x\%$  of the sample and others in  $y\%$  of the sample. In phenomenography, the spectrum of variation is what matters, not the frequency of the categories.

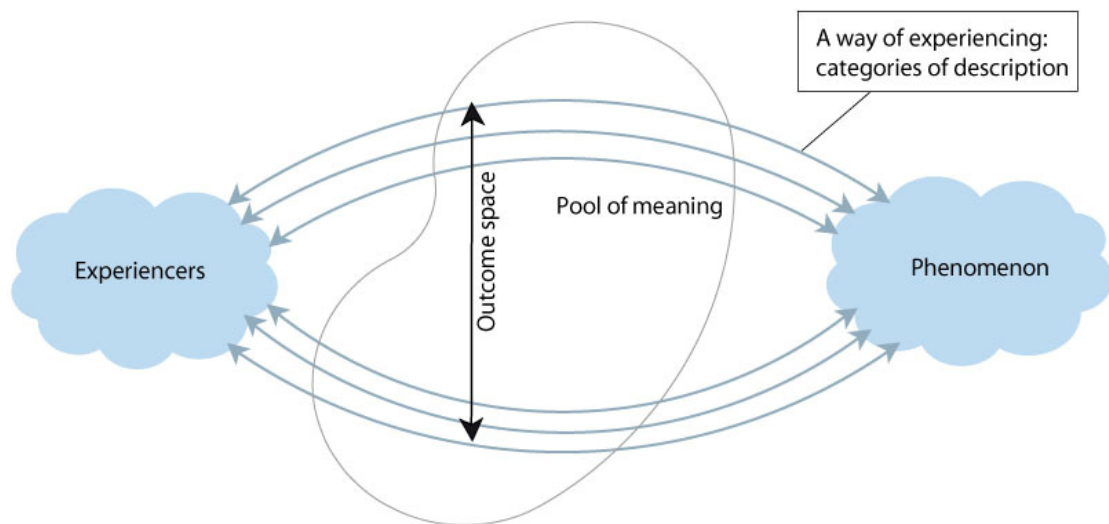
## **8.5 Exploring the Object of Study**

I have already stated that, in phenomenography, the object of study is neither the phenomenon itself nor the characterisation of the phenomenon by individuals. The object of study in phenomenography is the relationship that can be constructed through the descriptions of the phenomenon of study by those who have experienced it. In Figure 12, I develop a model to represent this relationship, that is, the elements that are present in the description of the experience between those who have experienced it (the ‘experiencers’) and the phenomenon.

In short, the figure shows that experiencers and the phenomenon of their experience are linked by ‘a way of experiencing’; that is, each experiencer experiences the phenomenon in a particular way. The researcher’s purpose is to construct ‘categories of description’, according to the main meaning of the experiencers’ verbalisation. The set of these categories of description forms the outcome space. The outcome space is a particular representation of a pool of meaning that could be formed with a full

description of all ways of experiencing. Below, I explore each one of these concepts a little more.

**Figure 11 – The Object of Study**



### 8.5.1 The Categories of Description

In the analysis phase, phenomenography involves the construction or discovery of a finite set of categories in the descriptions. The categories are the primary outcomes of a phenomenographic research study (Marton, 1980). A category of description is an assignment of meaning that emerges or is constructed from the data by the researcher. In this sense, phenomenography is an inductive process, since *a priori* one cannot presuppose what categories will arise from the data. Moreover, for categories of description to arise, the researcher has to become deeply familiar with all the data.

It should also be noted that the number of categories of description does not correspond to the number of subjects in the research, as categories of description are

not individual conceptions. The researcher extracts from each individual description what is essential to constitute the way in which that person sees, describes or experiences the phenomenon. The researcher then compares that description with others and through an iterative mode constructs a conceptual definition of a “qualitative way of seeing the world”.

Another reason why categories of description do not necessarily correspond to individual descriptions of the phenomenon is that the conceptions of individuals do not need to remain stable to allow the assignment of categories. This is also the reason why researchers do not need to check the data back with the interviewees to confirm the categories of description they have constructed out of the data. As the researcher assigns a category of description, what s/he has found or constructed is a qualitatively different way to that in which the phenomenon was described in the data. Many different subjects may have approached the phenomenon in that manner, and some may have approached the phenomenon by different categories simultaneously. There is no need for a one-to-one correspondence between individuals and categories of description.

Finally, each category of description is related to the others in a structural way; categories of description should have a thread along which one can be explained in relation to the others. This can be constructed by what Åkerlind (2003b) called the ‘theme of expanding awareness’, that is, a way to “mark aspects of the similarity and difference between the categories, and thus between different ways of experiencing the phenomenon, [allowing] the structural relationships between the categories to be elaborated” (Åkerlind, 2003b: 99). The set of this thread of variation constitutes a



‘pool of meaning’ or what is called, in phenomenographic terms, the ‘outcome space’.

### **8.5.2 The Outcome Space**

The other concept that should be explained from the model is the concept of ‘outcome space’. This concept refers to the categories of description taken collectively (Marton and Booth, 1997). The ‘outcome space’ is the range of the limited number of qualitatively different ways of experiencing a phenomenon, the range of “qualitatively different ways that a phenomenon can be understood ... [or] ... the complex of categories of description capturing the different ways of experiencing the phenomenon” (Marton and Booth, 1997: 125). As such, they are ‘the result’ and the second main outcome of the phenomenographic undertaking.

The outcome space emphasises the fact that individualised categories of description cannot be taken and understood separately. The category of description is not an individual description of phenomena, but a whole structured understanding of the phenomenon constituted through individual descriptions. This whole has two aspects: meaning and structure. As put by Åkerlind (2003b), the outcomes of phenomenographic analysis may be considered in two ways, through:

1. descriptions of key groupings of aspects of the variation in experience, representing the range of qualitatively different ways of experiencing the phenomenon in question, i.e. categories of description – these categories represent the collective range of meanings that make up the outcome space; and

2. descriptions of common patterns of variation running through the categories of description, which mark aspects of similarity and difference between the categories (and thus between different ways of experiencing the phenomenon) and allow the relationships between the categories to be elaborated – these relationships mark the structure of the outcome space (p. 92).

Marton and Booth (1997) observe that these two aspects, meaning and structure, “are dialectically intertwined and occur simultaneously when we experience something” (p. 87). We may say, therefore, that experiencing something has a meaning (referential) and a structural aspect.

Although, within an ‘outcome space’, we can expect to see and understand the phenomenon of study as a unitary whole, this sometimes may not be the case. There are occasions in which insufficient data was generated and therefore the whole range of variation within which the phenomena could be understood was not able to be considered. In other cases, new descriptions of experiences could demonstrate that other ways of experiencing are possible, therefore completing the pool of meaning. In short, research can only ensure that the outcome provided was the most adequate, considering the data available.

## 8.6 Summary of Chapter Eight

In this chapter, I described my methodological approach to the research. From the many possibilities of qualitative methodologies that were made known to me at the beginning of the research process, my progress on researching methodological options led me to choose phenomenography as my methodological approach. I justified the choice of phenomenography as my methodological approach mainly because it provides a rich interpretative framework of participants' perceptions of the concept studied.

I then described the main characteristics of phenomenography as the concepts of intentionality, outcome space and others, and I stressed the empirical approach used by phenomenography. In summary, phenomenography was seen as an empirical approach to research that seeks to discover or construct qualitatively different categories about phenomena that people have experienced in their lives, according to their descriptions of these experiences. As in a map, the categories of description will then form an 'outcome space', a snapshot of people's experiences of specific phenomena in the world.

Having discussed the nature of my research approach, I will show in the next chapter how I used this approach with respect to my phenomenon of study, the PFN model, in the three phases of the research: the approach phase, the exploration phase, and the inspection phase. This is what I have called my methodological journey.

## **9 Chapter Nine**

### **The Methodological Journey**

#### **9.1 Introduction**

In this chapter, I will compare my research process to a journey, and will demonstrate how I used phenomenography in the field. The methodological journey, or the research process, is characterised here as a series of activities that I performed to achieve my aims in the research. Inspired by Blumer (1969), I classified this journey into three different qualitative phases: an approach phase, an exploration phase and an inspection phase.

The approach phase concerned the negotiation for permission to research in the context in which the object of study was located, the boundaries of the scope of the research, and the first definition of strategies, methods and techniques to be used in the research. In other words, the approach phase dealt with ways of defining the intended object of study, identifying its boundaries and designating all relevant relationships between the researcher and the research environment.

In the approach phase, I describe how I contacted, and was allowed to collect data in, three educational institutions: the Department of Business Education at the University of Graz, Austria; the SEBRAE Managerial Technical School (MTS); and Faculty Pitágoras. I also describe how I came to define my phenomenon of study; the Practice Firms Network Learning Environment (PFN).

The exploration phase was deemed here to be an opportunity to capture rich pictures of the empirical world, a “way by which a research scholar can form a close and comprehensive acquaintance with a sphere of social life that is unfamiliar and hence unknown to him [*sic*]” (Blumer, 1969: 40). In this phase, I applied the methodological tools, collected and constructed data, and took advantage of my proximity to the object of study.

Finally, in the inspection or analysis phase, the researcher “should aim at casting his problem in a theoretical form, at unearthing generic relations, at sharpening the connotative reference of his concepts, and at formulating theoretical propositions” (p. 43). Following these guidelines, my intention in the rest of this chapter is to describe how I designed and conducted a consistent process in order to construct a way to answer my research questions and “lift the veils” (Blumer, 1969) that covered any unknown facet of my phenomenon of study.

## **9.2 The Approach Phase**

I have explained, in Chapter One, how I came to be aware of the PFN model. However, how would I recognise my phenomenon of study? What were the boundaries that I would have to set to distinguish my phenomenon of study from other concepts of the learning environment? Marton and Booth (1997: 129) point out that

The researcher from the outset delimits the phenomenon that is central to her [*sic*] interest, be it learning as such, or the nature of matter, or whatever. The researcher has a responsibility to contemplate the phenomenon, to discern its structure against the backgrounds of the

situations in which it might be experienced, to distinguish its salient features, to look at it with others' eyes, and still be open to further developments.

From the perspective of an outsider, my object of study was apparently very clear. The PFN was a trademark object, belonged to an international institution, and was traded throughout the world in the same way as any other educational product. However, the question remained as to whether I was interested in researching the network as a whole. Even if my answer were affirmative to this question, I would have to consider the constraints of time and funds. I therefore had to decide the boundaries of my object of study. The answer to this problem was to be found in one unexpected incident, which I outline below.

### **9.2.1 The Approach Phase in Austria**

I had planned to do all my research in the UK. Some time before I came to the UK, I had made contact with the Practice Firms Central Office in the country to talk about the possibility of doing my research there. The UK Practice Firms Network Central Office was based in Sandwell College (<http://www.sandwell.ac.uk/>) in Birmingham and Mr. Pillow, the person in charge at the time, tentatively agreed with the possibility, asking me to get in touch with him when I arrived in the country. I contacted Mr. Pillow in December 2003, after a brief period of adjustment in Lancaster. Mr. Pillow and I set up a meeting date, sometime in March 2004. During this meeting we agreed that the best time to begin the data collection for the research would be at the beginning of the next academic year: September/October 2004. I came

back to Lancaster and began to prepare for this occasion, which would be my pilot research.

I was surprised when, in early November, I could not contact Mr. Pillow. I was informed that Mr. Pillow had left the school, and that the school would not be using the PFN model until further notice. As I soon discovered through Europe's website, the model had been discontinued in the UK as a whole.<sup>1</sup> I continued trying to contact some students, through the school office, to conduct some pilot research, but after some unsuccessful attempts, I was forced to abandon these efforts. I perceived, then, how vulnerable my phenomenon of study was, at least in the UK. I therefore had to re-schedule my research.

I began by making new contacts. First, I wrote some e-mails to Practice Firms Central Offices around the world where it seemed possible to conduct my research. Although the model was widespread and used in 29 countries throughout the world at the time, there was a language barrier: I needed a country where Portuguese or English were spoken. Portugal would be a natural choice but unfortunately the PFN model was not used there. I then e-mailed the Austrian Centre for Training Firms – ACT – (<http://www.act.at/>), hoping that, being a leading country in the use of the model, Austria would be the best place to search for help. The PFN model was a compulsory subject in secondary schools in Austria, and was supported by the Ministry of Education. Austria had more than 900 Pfus throughout the country, representing, alone, around 24 % of Pfus in the World.

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<sup>1</sup> The Practice Firms Network in the UK was later taken over by EGNI, based in Aberdare, Wales. (EGNI is a Welsh word meaning energy) (<http://egni.morgannwg.ac.uk/>).

In January 2005, I received an email from Mrs. Elizabeth Wurtz, a lecturer in the Department of Business Education at the University of Graz, Austria. She was also on a PhD programme, and writing a thesis about the accountancy process in the PFN model. She offered to cooperate and provided me with the opportunity to do my pilot interviews in the University, with the possibility of contacting various Pfus in the country. My pilot research was then scheduled, and was carried out in March 2005 during a three-day visit to the University of Graz. I interviewed four students and one teacher. Mrs. Wurtz, the teacher, offered to arrange more interviewees but I explained that, due to the fact that this was a pilot research, five interviews would be sufficient, as I would need to analyse my approach in the interviews, and would certainly have to correct some lines of action.

The Department of Business Education at the University of Graz played an important role in the development of the PFN model in Austria. The graduates of this Department were expected to be teachers in the model; it is important to know this in order to understand the role of the Department and the relationship of its members with the model, including the students.

The Department ran two Pfus per semester at the time of the research. One was called KFUNiLine (<http://www.uni-graz.at/kfuniline/>) and was run in the German language. The other was called eXpand (<http://www.uni-graz.at/expand/>). The eXpand Pfu had been founded in 2002 explicitly as a learning environment in which English would be the working language. This explains why I was able to interview the members of eXpand and took part in one of the board meetings (see picture below).



**Figure 12 – eXpand Board Meeting in Austria**



**Source: Research Data**

The PFN model at the University of Graz at the time of the research had the following characteristics:

- a) The course was one semester in length and was compulsory for students applying for business education degrees;
- b) The classes had approximately twenty participants;
- c) The course could be divided into four kinds of events:
  - a. A strategic conference: an initial two-day seminar at the beginning of the semester to introduce people to the mechanisms of the PFN.

- b. Weekly meetings: three-hour meetings in which students and tutors reported what had been achieved, discussed and decided the work plan;
- c. The daily work: teams of three or four (departments) implemented the decisions that had been taken at the meetings. Each team or department had a team leader;
- d. The information-day: actual students gave a presentation on the company and the work procedures to would-be members.

The pilot interviews were very useful to improve my phenomenographic approach to interviews. I describe how I conducted these interviews in Austria later in this chapter.

### **9.2.2 The Approach Phase in Brazil**

After the problems I had experienced with my contact in England, I decided to do my main data collection in Brazil. I therefore began to make contacts with the institution which runs the PFN model in the country. In Brazil, the model was coordinated and run by SEBRAE. I had already made some contacts with SEBRAE in 2000, and those contacts were very useful now. Nevertheless, the rearrangement of strategy involved some logistical planning, since I had to seek permission from my sponsor; a formal process that would take some time.

Despite that, I began to approach SEBRAE/Mg for interviews in December 2004. I did not expect 'surprises' in my request but after the closure of the model in UK, I was preparing myself to deal with unexpected situations. I decided to be very formal, at least in the approach phase. I wrote a letter to MTS's Director, Mrs. Maria Lúcia Rodrigues Correa, asking her permission to collect data. In the letter, I stated the

objective of the research, the methodological approach, and the subjects I wanted to interview. I also stated that I expected the conclusions of the research to contribute to the understanding and improvement of the PFN model. I promptly received her reply on the 15<sup>th</sup> of December by e-mail, stating that “the school was an open door to the development of my research”. She asked me to get in touch with Mrs. Cássia Barbosa, MTS’s Supervisor, to prepare the details of my visit. Mrs. Barbosa always replied to my requests with enthusiastic encouragement.

In my further contacts with Mrs. Barbosa, I took particular care with the interview details because the pilot interviews in Austria had showed me that these could be important. At this time, of course, I had a much clearer idea of my methodology. So, in my written communication with Mrs. Barbosa I asked her to pay attention to the following:

### **The Sample**

*The sample does not need to be stratified. But I hope the student sample will show diversity, allowing students with different points of view on the phenomenon of research (The PFN) to take part in the research... preferably the sample should contain an equal number of male and female students and where possible an equal number of male and female tutors and staff.*

### **The Type of Participant**

*According to my methodology (a phenomenographic approach) and my perspective (andragogy) I would prefer students with a more mature attitude. I would also be keen to have participants (students and tutors) from partner Schools and Universities.*

### **The Consent**

*The participation should be spontaneous and consent should be sought. Although the nature of the research is not controversial, participants like to know what the research is about and how the information given will be used. Would you please inform participants of the following:*

*The interview is a description about their experience in the Practice Firms; The research is not institutional and the interviewee's identity will be confidential.*

### **The Interview Environment**

*To guarantee the interviewees' confidentiality and a relaxed atmosphere, I hoped to have a reserved space to conduct the interviews.*

On August the 8<sup>th</sup>, 2005, Mrs. Barbosa welcomed me at the school. I met her at the reception and, after a short introduction, she presented me with the facts and figures of the school, reported to me why she thought the school was different to other schools, and finished with what I took to be the school slogan: "Welcome to SEBRAE's corporative world".

I was then introduced to CESBRASIL's coordinator and, following a short discussion, I decided to expand my research sample to include participants from Faculty Pitágoras. I did so because I was particularly interested in researching how undergraduate students experienced the model.

### **9.3 The Sites of the Research**

#### **9.3.1 MTS/SEBRAE**

The Managerial Technical School, MTS, is a secondary school which defines its organisational mission as the leadership in entrepreneurial education technologies, through the use of innovative pedagogical practices (ETFG, 2005a). According to its pedagogical remit, MTS prepares "... enterprising, competent, critical, ethical and political citizens, committed to the construction of society" (ETFG, 2005a: 8). MTS's understanding is that "apprenticeship, at any level, does not happen by simply adding or accumulating new elements to the cognitive structure of learners. The belief is that the construction of competent individuals and collective skills is important [...] and one of these competences is entrepreneurship" (<http://www.fcetm.br/etfg/>).

The school substantiated its educational practice around four basic pillars: a) learning to know, i.e., learning how to acquire the instruments of understanding; b) learning how to do in order to act in society; c) learning how to live together in order to participate and cooperate with others in all human activities; and d) learning to be, the essential link that integrates the three preceding elements (<http://www.fcetm.br/etfg/>).

MTS also adhered to the following pedagogical principles: a) the process of apprenticeship must be based on mutual autonomy/responsibility; b) respect for diversity, for differences, for individuality, and the idea that the common good must be cultivated in all pedagogic actions; c) the classroom must be treated as a space of social interaction, a privileged environment for the formation of the person both individually and socially; d) the student must be considered an apprentice, an individual who already has knowledge that must be considered and respected in the teaching-apprenticeship process; and e) the student/apprentice must be an 'agent' in the process of teaching-apprenticeship.

The course, as it was offered at the time of the research, lasted three years, and the programme comprised traditional academic disciplines and some additional activities or projects. The academic disciplines offered in the first year of the course were Entrepreneurial Management I, General Accountancy and Finance, and Applied Law. In the second year, the academic courses were Entrepreneurial Management II, National and International Logistics, and Finance Management. There were three types of additional projects: a) the Tutorship project; b) the PFN; and c) the Entrepreneurial Showcase. These projects were run alongside the traditional disciplines, constituting the professional curricula.

The Tutorship Project was composed of a series of activities such as "scheduled meetings between students and entrepreneurs, interviewing entrepreneurs, technical visits, seminars, excursions, reports and interdisciplinary activities which gear students to reflect upon business life" (ETFG, 2005a: 19).

Beginning in the second half of the first academic year, the PFN model in MTS-Sebrae was an opportunity students had to participate as employees in a job-rotation simulated company. The PFN was structured as a 100-hour discipline: 50-hours in the second half of the first year and 50-hours in the first half of the second year (ETFG, 2005a).

Finally, in the third year, students were expected to use the knowledge which they had gained in a project called the 'Entrepreneurial Showcase'. In this project, students had to find a business opportunity in the market, elaborate a business plan, and test the viability of the business by making a presentation to the members of a jury (ETFG, 2005a).

### **9.3.2 Faculty Pitágoras**

The second institution which I researched was Faculty Pitágoras. Faculty Pitágoras offers higher education courses in several areas, including management. In Brazil, undergraduate courses in management take four years to be completed in general and culminate with the award of a Bachelor degree in Management. A graduate course in management education must follow the "Curricular Guidelines for graduate courses" approved by the Education and Culture Ministry. The Curricular Guideline for management courses defines the aim of a graduate course in management education as the formation of graduates who are able to "understand the scientific, technical, social and economic demands of the production process and of the whole enterprise, observing the various levels of decision making ... and (who) show intellectual flexibility and contextual adaptability in dealing with present and emergent situations in the diverse fields of action in management" (MEC - Report CES/CNE 0134/2003).

To achieve this profile, an undergraduate programme in management education should provide the following structure:

I – Fundamentals: the basic elements of anthropological, sociological, philosophical, psychological, ethical, political, behavioural, economic and accountancy studies, and those related to communication and information technology, and law;

II – Professional Content: subjects related to specific areas in management, incorporating management and organisational theory in the fields of human resources management, marketing, material resources, production and logistics, finance, and budgeting;

III – Quantitative Content and its Technologies: subjects related to operational research, game theory, mathematical and statistical models, and their application in management;

IV – Supplementary Content: optional cross-curricular and interdisciplinary studies to complement the graduate profile (Report CES/CNE 0134/2003).

Within this structure, Faculty Pitágoras defines as its pedagogical project “the intellectual autonomy of the student”. To achieve this objective, the methods of education focus on ‘applicability’. Throughout the course, students are motivated to



define problems, to examine alternatives to treat the problems, to integrate different areas of knowledge, to conduct readings, searches, interviewing and to structure reasoning to arrive at conclusions. Then they are encouraged to give oral presentations in a professional way. ... what is learned is what is useful and immediately usable: emphasis is on realistic exercises of application, as case studies and simulated companies (<http://www.faculdadePitágoras.com.br/>).

In Faculty Pitágoras, the PFN model was offered to undergraduate management students in the fourth and final year of the course (the 7<sup>th</sup> semester) at the time of the research.

## **9.4 The Exploration Phase**

In the exploration phase section, I describe how I constituted the sample in the main data collection, and how I interacted with the subjects of my research in the interviews to obtain, collect, store and construct the relevant information.

### **9.4.1 Constituting the Sample**

Although the characteristics I hoped to have constituting my sample had been defined in my letter to SEBRAE, the actual sample was only defined when I arrived in the field. The sampling of the interviewees was carried out in different ways. In MTS, I was helped by different people to select the participants. I began asking CESBRASIL's staff to contact some students. These, in turn, pointed out and contacted some other students. Sometimes, I received help from the pedagogical

supervisor and the librarian, who pointed out to me some students who met my requirements. I then approached these students and invited them to be interviewed. Only one student explicitly refused to do the interview because of the theme, although some students refused on the grounds that they were too busy with school activities. The students were interviewed as soon as they were contacted, that is, I asked them if they would be prepared to contribute to the research, briefly explained the nature of the research, and we began the interview shortly after that.

In the MTS School, I established the condition that the student had to have participated in the PFN in the second semester of 2004 and in the first semester of 2005 (the previous class) as a requirement to be interviewed. This was established in view of the fact that recent students would be able to remember more easily the activities and events that they had experienced in the model. I also only chose students who had fully completed the experience in the PFN in that year. They would have a complete view of the whole cycle of the model.

Constituting the sample in Faculty Pitágoras was a little different. Students of Pitágoras had graduated recently; therefore they were no longer in the Faculty as students and I needed help from the school officer at Pitágoras to contact them. I was given their telephone numbers; when I called them we arranged a meeting place. Some of these meetings were in the premises of the Faculty and some in the workplaces of the participants.

Unlike MTS's students, Pitágoras' students had experienced the PFN for only two terms (about three months each term). As they were the first students in the Faculty to

run the model, they had to start up the model constituting each company. A business plan was created in the first term to set up the business and then, in the second term, they managed the enterprise.

My research was based on 29 interviews, as listed in Table 3. This is not a magic number. Trigwell (2000) points out that, considering the nature of phenomenographic inquiries, “ten to fifteen would be the minimum to create a reasonable chance of finding variation in the range” (p. 66). Nevertheless, the important issue is not the number of interviews, but that the number of interviews guarantees the construction of the range of variation needed in a phenomenographic study. The distribution of students between the two institutions and some of their characteristics were as in Table 3 below.

**Table 3 – Summary of the Characteristics of the Sample**

<b>Types</b>	<b>MTS</b>	<b>PITÁGORAS</b>	<b>TOTAL</b>
<b>Secondary School Student</b>	20		20
<b>Undergraduate Student</b>		9	9
<b>TOTAL</b>	20	9	29
<b>Male</b>	8	6	14
<b>Female</b>	12	3	15

**Source: Research Data**

### 9.4.2 Interviewing

Interviews are one of the most commonly used methods of collecting data in qualitative research; interviewing is the favoured method in phenomenographic studies. The research interview was defined here as the interaction between two people: one characterised as the interviewer – myself; and the other as the interviewee – the student. The former was interested in some kind of information that only the latter could possibly have. This interaction was processed invariably through a conversation.

Despite being a ‘conversation’, I did not see the interview as a ‘disinterested conversation’ between equals. Postmodernist concerns have indicated that the “boundaries between, and respective roles, of interviewer and interviewee have become blurred as the traditional relationship between the two is no longer seen as natural” (Fontana, 2003a: 52). In interviews there is certainly a relation of power in which the interviewer poses the questions and the respondent provides the answers.

In my case, I had decided to take part in the conversation with the specific purpose of securing answers to some research questions and the other – the student – had accepted this informational role. I considered this “verbal interchange, often face to face” (Burns, 2000: 423) as an opportunity to have access to a substantial description of a particular social phenomenon (Spradley, 1979).

I conducted all the interviews myself. All interviews were recorded, which afforded me additional time to pay attention to the conversation itself instead of taking notes. Furthermore, it generated material that could be listened and re-listened to and, if

transcribed, read and re-read. This also provided me with a concrete source of data that could be fully revisited either by myself or by others. The recordings were made on a digital recorder that both provided a better quality of sound than a tape-recorder and also could be managed more flexibly, using a computer. Despite all this, sometimes the sound was insufficiently clear and some utterances were difficult to understand.

Another important characteristic of the interviewing process was the perceived neutrality of the environment. By the neutrality of the environment, I refer here to the degree of familiarity which my interviewees and I had with the interview environment. I found that this degree of familiarity affected me in the various sites where I conducted the interviews and I expect that it also affected the interviewees. For example, interviews conducted with MTS's students were all done in the school, sometimes in the classroom designed to run the PFN model, sometimes in a very pleasant space at the rear of the school. Although it was an open space and noisy at times, there was plenty of room and normally we were not disturbed.

Interviews conducted with students from Pitágoras were held in two different locations. Some were conducted in the Faculty premises; the space had to be negotiated each time, sometimes with different people and with some degree of difficulty. Some other interviews were conducted in the students' workplaces and although I have not detected a major problem with power relations, I occasionally felt discomfort and noticed some signs of time pressure.

The interviews were conducted using a semi-structured format. Only the opening scenario was defined; this was achieved by delivering an introductory letter to the interviewee. This opening scenario was intended to trigger the subjective experiences of the PFN of each individual in a way that gave them the least possible indication of my presumptions about the phenomenon of study.

The approach and structure of the interviews which I conducted in Brazil were basically the same as I had used in Austria. Nevertheless, one major difference was the fact that I was familiar with the structure and aims of the educational system with which I was interacting; therefore, I did not need to ask students in the Brazilian educational system to situate their experience.

Although I was concerned about the issue of consent, I did not present any formal consent form for my interviewees. I considered that this was unnecessary since the theme was not controversial and I feared that the fragile rapport that had been created in the situation could be unravelled by a formal research protocol. As Fine *et al.* (2000) stated,

The informed consent form forc[es] us to confront and contend with the explicitly differential relationships between the respondents and [researchers]; it becom[es] a crude tool – a conscience – to remind us of our accountability and position (p.113).

My 'introductory letter' in Brazil was slightly different from the one which I had presented to Austrian students. This time, I tried to emphasise that I was interested

both in their *thoughts* and in their *feelings* during the experience. This was my introductory letter in Brazil,

*Dear Participant,*

*Thank you for taking part in this research.*

*My aim in this interview is to hear the description of your experience in the Practice Firms Network learning environment. I am interested in any kind of experience in the Practice Firm that was meaningful to you.*

*To begin with, I would like you to remember any occurrence in the Practice Firm that was important to your learning and to describe it to me.*

*While doing that try to remember:*

*What were your thoughts at that moment?*

*What were your feelings at that moment?*

*Throughout the interview I may interrupt you sometimes to clarify some words and situations in your description that were not very clear to me.*

*This interview will be recorded solely for the purpose of the research and your actual name and that of others cited by you will not be disclosed at any time in the research.*

*Jorge Santos*

There were different reactions after they read the 'introductory letter'. Some students began to speak immediately about one of their experiences, others waited for a further signal. I had decided, beforehand, that only after they had read the text would I turn on the tape recorder. When students began to talk immediately, I had to ask them to wait until I switched on the tape recorder. Then, I signalled with an 'ok, go on' gesture.

When students waited for another sign, I had to introduce some intervention to begin the conversation. I used generic comments as, for example, in this interaction

*OK ... [name of the student] ... I would like you to tell me three experiences, three happenings you can remember ... that were important to you in the Practice Firms ... (MTS-13).*

After this introduction, they began to describe their experiences and I followed with several types of oral interventions. Each type of intervention had some form of intentional indication. Some interventions were an indication to ‘introduce incidents’, others to ‘describe further their experiences’ and others to ‘summarise their learning experiences’. At some point, when I felt that the interview was coming to an end, I made an intervention to ‘close the interview’.

## **9.5 The Inspection Phase**

The third broad phase in the research process was the inspection phase (Blumer, 1969). The inspection phase is a continuous and iterative process; “an intensive examination of the empirical content of whatever analytical elements are used for purposes of analysis, and this same kind of examination of the empirical nature of the relations between such elements” (p. 43). The inspection phase comprised the activities that I carried out while considering the collective data that I now had in hand. In this phase, I tried to make sense of the information obtained and “to construct and present a convincing explanation or argument on the basis of qualitative data [available]” (Mason, 2002: 147). Thus, the data analysis is a critical point in the research work, and it must not be a pre-activity, and cannot involve a pre-assumption



of what will come out of the data. It is the reason why all of the previous work was done, and if it has been done well it will facilitate this key stage.

In summary, my analysis phase was conducted by means of the following steps:

- a) The data were organised. The interviews were identified by site and type of participant and numbered sequentially;
- b) The data were inspected. The interviews were listened to carefully many times;
- c) Significant parts of the interview were marked as quotations. Patterns of information were identified in the data;
- d) Categories were assigned to quotations, trying to clarify the meaning;
- e) Pools of meanings were constructed in an iterative mode with the data;
- f) The data and theoretical constructions were continually re-examined to better represent valid arguments;
- g) The categories of description were described and validated with examples of the data;
- h) The participants' categories of description were compared and critically assessed.

Below, I discuss the main points of these phases.

### **9.5.1 Organising the Interviews**

The interviews were identified by place (MTS or Pitágoras). They were then numbered sequentially. For instance, a citation identified as (MTS-03) means that it

was conducted with an MTS student and it was the third interview I conducted with students within that institution.

The interviews I made in Austria were transcribed verbatim using a word processor. As these numbered only five, I did not use any specific software to analyse them. Nevertheless, I found the task of transcribing interviews incredibly time-consuming. Since time was a valuable commodity for me, I decided to pay someone to transcribe the interviews that I was conducting in Brazil. As this is a non-professional activity, I had problems in finding competent persons. Finally, I found two independent paid transcribers while I was still in Brazil. They did part of the work, but when I came back to the UK both contacts were difficult to maintain, and others which I tried to make were unsuccessful. In the end, I was left with 15 transcriptions made out of 29 interviews. However, it must be emphasised that I did not lose any data. Afterwards, I decided to use a Computer-Assisted Qualitative Data Analysis Software (CAQDAS) to analyse the data.

Bryman (2001) points out that this kind of aid is “by no means universally embraced ... and express[es] concerns that ... the ease with which coded text can be quantified, either within qualitative data analysis packages or by importing coded information into quantitative data analysis packages like SPSS [Statistical Package for the Social Sciences], will mean that the temptation to quantify findings will prove irresistible to many researchers” (p. 407). Yet, notwithstanding these temptations, computer aid was helpful in coping with those demanding physical tasks of “writing marginal codes, making photocopies of transcripts or field notes, cutting out all chunks of text relating to a code, and pasting them together” (Bryman, 2001: 406).

I used Atlas.ti.V5.0 software in the research. Fortunately, I found out that I could code and make notes in the oral data in the software in the same way that I was coding them in the transcriptions. The negative aspect of this was that I could not, for instance, search for strings in the oral data. On the other hand, the oral data were much richer in details (accent, intonation, pauses) than were the written data.

### **9.5.2 Listening Carefully to the Data**

That which counts as being considered to be data is not always self-evident in the interviewing process. There is always a lot of non-verbal communication that could be considered important to the meaning of what is being said. As researchers are engaged in the transcription of interviews, they always have to decide whether or not to include such behaviour as data, based on what they think was relevant or not at the time. I struggled with that problem when transcribing the first interviews (my pilot interviews). However, after deciding to use the Atlas Ti. software, I was able to analyse the data in oral format. This allowed me to have direct access to all “fine-grained representations of the [oral] interactions ... [as] ... the length and placement of pauses, simultaneous talk by interactants, speakers’ intonation [and] words that [were] stressed or elongated by speakers” (Miller and Fox, 2004: 42). I think that I benefited from this, since I could perceive and sometimes even compare the subtle differences between the written and the oral versions of the data.

I listened to the data in many ways. I began just by listening to the whole interview, trying to familiarise myself with the data in a holistic way. The next time I listened, I began to listen for specific types of incidents, trying to relate them to other incidents.

After that, I tried to listen in such a way that I could identify a structure threading through the data. Further listening was to fill gaps in the emerging structure.

### **9.5.3 Looking for the Structure of the Data**

When I considered that I was familiar with the data, I began to listen and break down the data into meaningful pieces. This was done because, as Åkerlind (2005b) states, “the aim is to consider the interview data as a set ... [but] ... it is an obvious impossibility to hold all possible aspects of 20 or more interviews ... in one’s mind in an open way at one time” (p. 328). So, some kind of analysis is necessary.

All this process is confusing at the beginning and not as straightforward as my narrative may suggest. However, at some point, and after an iterative process, the data began to make sense, and I began to discern a structure for the data. To arrive at this point, however, I had to stratify the data in three types or patterns of information.

These were:

- a) The types of intervention I had made in the interviews;
- b) The types of ‘incidents’ the subjects had chosen to describe to me; and
- c) The type of ‘synthesis’ that they had made of their experience.

I describe in more details these issues in my analysis chapter (Chapter Ten).

### **9.5.4 Identifying or Constructing Categories?**

Some phenomenographic studies assume that, after a thorough reading of the data, a finite set of categories emerges from the transcripts. According to this view, the work

of the researcher is to identify these categories. Nevertheless, I argue that categories are constructed by the relationship between the researcher, the subjects, and the phenomenon of study. In this way, the researcher is the main agent in the way in which a structure of the outcome space of a phenomenographic research is presented. Although something really seemed ‘to emerge’ suddenly in the inspection phase of the process, that something did not come out of thin air; it was something with which I had been grappling for some time. This construction of categories was only possible after I had familiarised myself with the data in such a way that I could identify immediately sequences of description with interviewees and situations. It began with the perception that specific themes were recurring in the interviews when interviewees were describing the contents of their experience.

These ‘contents of experience’ represented the meaningful pieces of the participants’ descriptions of the phenomenon of study as these related to the interests of the researcher. I used two broad strategies to deal with the complexity of the data and to begin constructing categories of description in a phenomenographic way.

One strategy was to break down the data into smaller pieces of information. Some of these pieces of information I called ‘incidents’, and others ‘syntheses’. I will describe this in the analysis chapter. This allowed me to go back and listen to, or read, the ‘incident’ many times. This also allowed me to listen to different descriptions of one specific type of situation, for instance, trade fairs.

Another strategy was to make notes on the margins of the interviews, whenever I felt that the information represented a different way or a repeated way that the PFN had

been experienced. Some of these notes were later discarded, as new ones seemed to afford a better way of describing the phenomenon.

### **9.5.5 Validating the Categories with Data**

After a category of description was constructed and described, it was checked against the data to ensure that the categories were grounded in the data. This process was iterative. That means that categories were checked against the data, but also that it was foreseen that new data or a different way of looking at the data might influence the definition and structure of the categories.

The quotations were then selected first to corroborate the definition of the category and after to illustrate the categories being described. The choice of quotations to corroborate the categories defined was demanding because I had to decide and separate chunks of data into compartments, and some citations seemed disparate when isolated from their context. As I said above, this process of choosing quotations to corroborate the categories also could result in a revision of the description of the category. This interaction with the data was repeated until the process became stabilised.

After I had a well established set of categories, making choices of quotations to illustrate the categories was obviously much easier, as it was simply the matter of choosing those which could best represent the meaning of the category being described.

### 9.5.6 Structuring the Outcome Space

As observed by Åkerlind (2005b), “phenomenographic research aims to constitute not just a set of different meanings, but a logical structure relating the different meanings” (p. 329). This logical structure is supposed to be hierarchical and this hierarchy may be logically or empirically structured. There are two related aspects here. Firstly, there is the question of whether the different categories of description constitute a structure; and secondly, the question of whether this structure is hierarchical.

The first issue, the question whether the different categories of description constitute a structure, is related hence to two points: a) the position I state earlier, that categories of description are constructions rather than discoveries; and b) the position that the object of study in phenomenography is the relationship between subjects and their experience of a certain phenomenon. The combination of these two premises leads to a logical inference that the composition or decomposition of a similar phenomenon by the research assumes the necessity of a relationship between the elements of the description. This is supposed to be the structure of the researcher’s narrative.

The second issue, the question of whether this structure is hierarchical, is controversial. There are at least two ways in which hierarchy can be considered here. Firstly, hierarchy could be considered as an increase in complexity, with categories with fewer elements and consequently less interrelationships being considered less complex than those with more elements and more interrelationships. Secondly, hierarchy could be seen as an increase in the complexity with which individuals approach the phenomenon (Marton and Booth, 1997). In both views, however, there is

the complex question as to how the categories arose, and how they relate to each other. There are two views about this question.

On the one hand, in a logical view, “the structure of the outcome space is best constituted with a priority given to ... the epistemological assumptions of the research approach and the inevitable limitations of any data collected” (Åkerlind, 2005a: 118). The researcher and his or her beliefs is the point of departure here. On the other hand, in an empirical view, “the structure is best constituted with a priority given to ... the empirical nature of the research approach [data] ... [and taking into consideration that] ... the transcript data are what we, as researchers, have to work with” (Åkerlind, 2005a: 118). The data and their limitations are the starting point here. In the field, these two orientations are, most of the time, complementary.

In this research, I felt at times that I was following one view or the other. For instance, having elaborated a type of category in data from one of the sites (say, MTS), in a logical view, I implicitly hoped to find the same category in data from the other site (Pitágoras). At the same time, I usually changed or refined a category whenever I found some data that suggested a different approach to the structure of the outcome space. This process also occurred until I found I had come to a stabilised structure.

## **9.6 Summary of Chapter Nine**

In this chapter, I presented the various steps by which I came to approach, to explore and to inspect my object of study in my main set of interviews in Brazil. I gave a detailed description of how I used interviews, the main orientation of how the data were organised and inspected, how categories were assigned, and how meaning and



structure were searched for and conceptualised. My actions were underpinned by the research literature on phenomenography described in the previous chapter (Chapter Eight), and I had to position myself where researchers postulated contradictory assumptions.

Phenomenography was a very demanding approach to researching and analysing data, but it was also very rewarding. It was demanding because it required not only extracting and grouping a vast amount of data but also having an intimate relationship with these data. Only after this affective relationship with data was the construction of a meaningful analysis and a consistent set of categories possible. Nonetheless, it was also rewarding because it promoted an understanding of how students perceived the PFN phenomenon that it is improbable would be obtained without this methodology.

Having stated my methodology, I now need to outline how I conducted the analysis of data, and the results of this analysis. This is done to show how students of two educational institutions in Brazil described some aspect of the world around them: the PFN model.

## **Section Four – Data Analysis and Conclusions**

### **The Qualitative Ways of Experiencing the PFN**

This section has two aims: firstly, the description of how I organised the data that were collected in the interviews; secondly, a phenomenographic analysis of these data. The section is intended to be a point of departure for the discussion of the literature on learning and practicing management in the PFN model that is carried out in the next section.

The first aim, the description of how the data was organised (Chapter Ten), was achieved in two steps: the first step was to classify the interventions I made into categories and describe the outcomes of these interventions; the second step was to classify the outcomes of my interventions – students' descriptions – into 'themes'; to describe and to illustrate these outcomes.

The second, and more important, aim of this section was to produce a phenomenographic analysis of the data. This was covered in the following three chapters (Chapters Eleven to Thirteen). To facilitate the task of analysing the data, I divided the set of interviews into two case studies. Chapter Eleven provides the case study from the Pitágoras students' descriptions of their experiences; Chapter Twelve provides the case study drawn from the MTS students' experiences of the PFN. These two chapters illustrate the construction of 'categories of description' in a phenomenographic perspective, from the description given by students of their experiences.

Finally, I constructed a global categorisation of students' descriptions of their experiences in the PFN model (Chapter Thirteen), showing how the outcomes of the two different case studies could be combined in an overall outcome space. In Chapter Thirteen, I also showed that the outcome space contained variation within each category of description. This variation was identified and described.

According to Perry's five-chapter model of presenting a thesis, this data analysis section "should be restricted to presentation and analysis of the collected data, without drawing general conclusions or comparing results to those of other researchers who were discussed in [Section] 2" (Perry 1998: 80). These aims – discussion and comparison of results – will be developed in the next section, Section Five.

## 10 Chapter Ten

### Organizing the Data and the Data Analysis

#### 10.1 Introduction

In this chapter, I describe how I began to make sense of the data. Here, I use the term 'data' to describe the utterances of both the interviewees and the interviewer, that is, all the dialogue that was produced during the interviews.

Accordingly, the data were first categorised into two sets: on the one hand, what I called 'the interventions of the interviewer', which consisted of every intervention or utterance that I, as the interviewer, inserted in the interview; and on the other hand, the interviewees' outcomes, or what interviewees produced, triggered by my interventions.

My interventions in the interview process were classified into three types. I named them social protocol interventions, main interventions and inadequate interventions. A social protocol intervention was a type of oral intervention that, generally, did not interfere with the outcomes of the interview process. The second group of interventions which I made was classified as the 'main interventions' in the interview. These interventions were employed to explore the participants' descriptions of their experiences in the PFN.

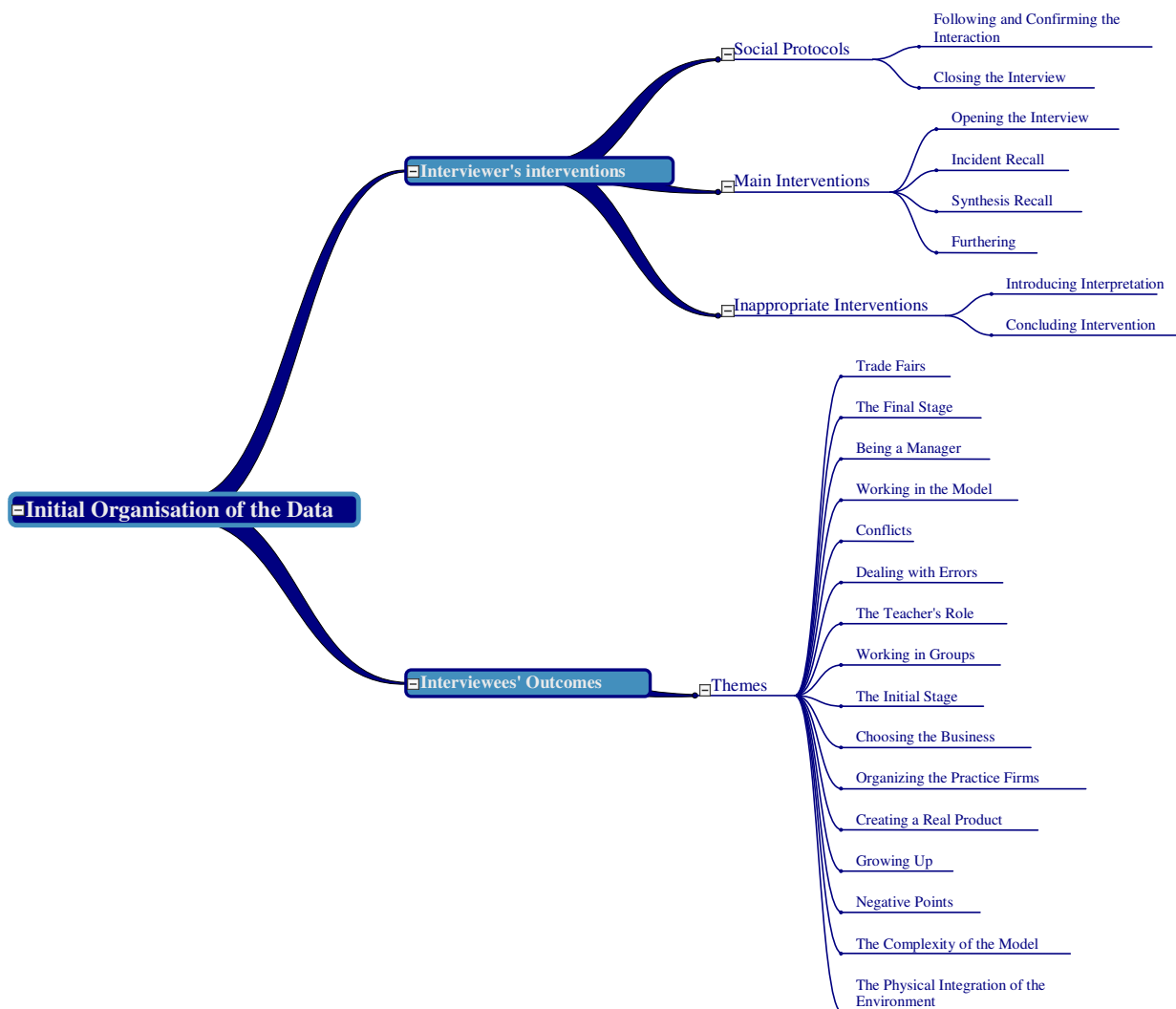
Finally, there was a group of interventions that I would call, due to my phenomenographic approach, 'inadequate interventions'. They represented the

introduction of the interviewer's point of view into the student's description. Where I felt the outcomes of these interventions influenced the immediate response of the interviewee, even slightly, I discarded this immediate response for the purposes of the phenomenographic analysis.

The other set of data was classified as the interviewees' outcomes. The interviewees' outcomes were split into what I called 'themes', that is, periods of the interviewee's description which related a meaningful experience of what had happened to him/her in the PFN. These themes were categorised into sixteen different classes, according to the content of the description.

These two ways of separating the data became the first level of analysis in my work. It helped me to make sense of the data and gave me a threshold for my phenomenographic analysis. In summary, the structure of this chapter can be outlined as in the diagram overleaf:

**Figure 13 – The Structure of Chapter Ten**



As I have already mentioned, the data consisted of 29 interviews conducted in two different educational institutions in Brazil. Twenty interviews were carried out in MTS, and nine in Faculty Pitágoras. Each interview was identified by the name of the institution (MTS or Pita) and a number (e.g. 01) was assigned to it. The number is sequential, that is, 01 means that it was the first student whom I interviewed in that institution. An interview identified as Pita-02, for instance, refers to the second student whom I interviewed in Faculty Pitágoras. The interviews were carried out in Portuguese, and were translated into English by myself.

**Table 4 – Summary of the Data: Interviews**

<b>Types</b>	<b>MTS</b>	<b>PITÁGORAS</b>	<b>Total</b>
<b>Secondary School Student</b>	20		20
<b>Undergraduate Student</b>		9	9
<b>TOTAL</b>	20	9	29

**Source: Research Data**

### **10.3 The Interventions of the interviewer**

Although, in a phenomenographic research approach, the researcher is expected to step back in the interview process, it is unfeasible to do so completely. The researcher is at least physically present and, certainly, this makes a difference to the interviewee. The researcher also plays “an active and leading role in phenomenographic interviews [as s/he] defines the phenomenon being discussed and also the focus taken to that discussion” (Åkerlind, 2005a: 107-108).

Thus, I think that it is useful to analyse the kind of intervention that the researcher makes in the interview process. In this research, these interventions were classified into three types: social protocol interventions; main interventions; and inadequate interventions. In the following subsections, I analyse these three types of interventions.

#### **10.3.1 Social Protocol Interventions**

Social protocol interventions did not interfere with the dynamic of the interview process, in the sense that they were just social conventions which I was applying to a

social situation. That does not mean they were unimportant insofar as they helped to build up a rapport, which may have helped other interventions to run more smoothly. This category of intervention was divided into two types: (a) following up and confirming the interaction; and (b) closing the interview.

**a) 'Following up and confirming the interaction' interventions**

Following up and confirming the interactions were oral interventions that I made when I wanted to indicate that I was following the conversation or that I had understood what the subject had said. The way I expressed this was by murmuring some monosyllabic words, such as 'Yes ...' and 'hmm ... hmm...' Another way in which I indicated my attention was by looking directly at the subject. This was facilitated by the fact that the interviews were being recorded and I did not have to take notes.

**b) 'Closing the interview' interventions**

Closing the interview interventions were used when I perceived that the interview was coming to an end. I had negotiated in the approaching phase that the interview would last from thirty to forty minutes, but, in general, the duration of the interviews was a bit shorter than that: something around 25 minutes. When I had asked subjects to describe three incidents, the indication to end the interview was, naturally, when they had finished describing the third incident and I had finished exploring the incident. At other times they were reluctant to pursue some descriptions and began repeating the same theme. At these points, I perceived that it was time to stop the process.



### 10.3.2 Major Interventions

The second group of interventions which I made can be classified as the major interventions in the interview process. They were produced in order to explore the participant's description of his/her experience in the PFN. These interventions were classified into four types a) opening the interview; b) incident recalls; c) synthesis recalls; and d) furthering intervention.

#### a) 'Opening the Interview' intervention

The opening the interview intervention was important because it gave momentum to the interview. As I explained in Chapter Nine, the interview opening was invariably made by the presentation of the 'introductory paper' (see Chapter Nine, p. 210).

However, some students who seemed confused needed further encouragement to orientate themselves. This encouragement usually consisted of a statement similar to the following:

*... I would like you to tell me about your experiences in the Practice Firm ... would you recall and describe them to me? (Interviewer – Interview MTS-16).*

#### b) 'Incident recall' Intervention

An 'incident recall' intervention was a general statement that I deliberately introduced into the interview to prompt interviewees to remember a further episode that had happened to them in the PFN. I called the description of these recollections 'an incident'. An 'incident recall' was when I said something similar to: "OK, let's take

something else that happened.” The student then recalled a new episode and began talking about it.

### c) ‘Synthesis recall’ Intervention

On the other hand, a ‘synthesis recall’ comprised phrases which I used to encourage the subject to synthesise a description they had given. To achieve that, I used phrases such as: ‘What did you learn by this experience?’ or ‘What did the PFN mean to you?’ In general, this type of intervention triggered the students to elaborate a discourse about the outcomes of that specific episode or the meaning, for them personally, of the learning environment.

### d) Furthering intervention

‘Furthering interventions’ were interjections which I made while trying to explore the meaning of something that the interviewee had just said. It was a deliberate intervention, aiming to force the interviewee to reflect on what he or she had related and make him/her explore it in more depth. I did this several times, as for example, when I asked student MTS-15 to explain the meaning of ‘huge goals’; an expression he had just mentioned in the interview.

## 10.3.3 Inadequate Interventions

Finally, there were some interventions which I made that I would call ‘inadequate interventions’. Two types of intervention fit into this category: (a) introducing interpretation; and (b) concluding intervention. I tried to avoid this type of intervention and, where it occurred, I decided not to use the outcome when the interviewee appeared to have been influenced by that particular intervention.

### **a) Introducing interpretation**

I sometimes found myself introducing ‘interpretation’ in the interview process. This type of intervention might have interfered negatively with the direction the interview was taking, that is, it might have caused the interviewee to feel that I was offering an expert interpolation based on my position as researcher. For instance, in one interview the interviewee referred to one type of relationship between students in the PFN model. Although he had not mentioned that it could be something like an employee-boss relationship I introduced an interpretation suggesting this

*You said that it was strange because you are classmates and you are experiencing an employee-boss relationship with a peer ... (Interviewer – Interview MTS-16).*

This comment could be justified on the basis of his previous descriptions. However, it was not a ‘best-practice’ intervention in a phenomenographic approach.

### **b) Concluding intervention**

Concluding interventions were comments that I made in the interview which tried to summarise what the student had said. For instance, in one specific interview I interpreted an interviewee’s comment about her perception of assessment in the PFN with the reply: “So, everybody knows that this does not happen ...” (Interviewer – Interview MTS-06).

Again, this could be a justifiable summary of student’s point of view. However, it is not a recommended intervention from a phenomenographic perspective because it

interferes with the outcome of the description of the interviewee. What comes out as a response to this type of intervention may be influenced by my observation. In general this kind of inadequate intervention was rare and I always tried to monitor myself to avoid them.

This type of analysis of my interventions in the interview helped me to understand better the other set of data in the research: the interviewees' outcomes. It signalled to me, for instance, the beginning of a new incident or a reflective moment in students' narratives.

#### **10.4 The Interviewees' Outcomes**

The interviewees' outcomes constituted the source from which the categories of description of my phenomenographic analysis were constructed. In order to begin to make sense of interviewees' outcomes, I decided to break down the descriptions given by students into examples of what I called 'incidents'. Incidents were pieces of a description provided by an interviewee; they related either to some instances that had happened in the PFN or to topics that students began describing; they happened either at the beginning of the interview as a result of my 'opening intervention', or when I encouraged the subject with interventions that I termed 'incident recall'.

At the beginning of the interview, I generally mentioned to students that I was interested in *three* happenings. After they had described one happening I prompted: "Let's now take another happening" and the interviewee moved to another kind of experience which they had had in the PFN. I considered each of these accounts to be "an incident". The other way of triggering incidents was more fortuitous. Some

interviewees were very talkative and I let them talk freely. I then split their talk into what appeared, to me, to be chunks of descriptions or incidents.

As can be inferred, incidents were very important pieces of data because they represented what the interviewees perceived to be most important about the PFN. As they were free to choose and describe whatever type of experience they found to be relevant from within the model, I considered these incidents of real significance in explaining students' understanding of the PFN. I then named the incidents according to what seemed to be the main subject that the participants were describing.

There were not exactly three incidents per interview, as may be expected, and I recounted 75 incidents described in the 29 interviews. To give a meaningful description of these incidents, I organised them into 'themes'. These themes, which put together incidents closely related to one another, are the first level of immersion into the data. The 75 incidents were grouped into 16 types of themes. These themes are listed in Table 5, in the next page.

This table also shows the number of times each theme appeared in interviews from each site (MTS School and Faculty Pitágoras). The table was organised to show the themes by total number of occurrences in descending order of frequency. It should be noted, however, that this does not represent categories of experiencing the PFN, but only labels that, in a certain sense, summarise what the interviewee had said concerning each theme.

**Table 5 – The Themes**

<b>Themes</b>	<b>MTS</b>	<b>Pitágoras</b>	<b>Total</b>
1. Trade Fairs	14	7	21
2. The Final Stage	8		8
3. Being a Manager	6		6
4. Working in the Model	5		5
5. Conflicts	5		5
6. Dealing with Errors	5		5
7. The Teacher's Role	5		5
8. Working in Groups	1	3	4
9. The Initial Stage	3		3
10. Choosing the Business	1	2	3
11. Organizing the Practice Firms		3	3
12. Creating a Real Product	2		2
13. Growing Up	2		2
14. Negative Points		1	1
15. The Complexity of the Model		1	1
16. The Physical Integration of the Environment		1	1
<b>Total</b>	<b>57</b>	<b>18</b>	<b>75</b>

A brief comment on Table 5 shows that 'Trade Fairs', 'Working in Groups' and 'Choosing the Business' are the only themes that appear in both Pitágoras and MTS sites. The other themes appear either in Pitágoras or in MTS. Furthermore, 'Trade

Fair' is the only theme that seems to be consistently mentioned by both students of Pitágoras and MTS, and the theme which seems to have impacted hugely on how students interpreted their experience. Below, I will briefly describe what is meant by each theme, adding one or two transcripts of descriptions given by students, which recount and explain in brief what the theme is about.

### 10.4.1 Trade Fairs

As just mentioned above, the 'Trade Fair' turned out to be the most frequent theme described in the data by the students. The concept is described, from an institutional point of view, in Chapter Two. The trade fairs events, as real social occasions trying to mimic real trade fairs that occur in the business world, brought students a different kind of educational experience. These trade fair events were experienced in many different ways, which will be explored later. Here I will introduce how the theme is expressed from a student's point of view. For instance, the student below described the trade fair as

*... an event ... organised by the educational institution ... that opens the institution doors to the public ... and turns us into ... we have to sell our products ... in a simulated way ... to the public ... and other Practice Firms entrepreneurs ... from PUC, SEBRAE<sup>1</sup> ... the intention of the trade fair is to give the Practice Firms the opportunity to show their products and sales ... the trade fair is a very outstanding point in the*

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<sup>1</sup> PUC and SEBRAE were mentioned to refer to other schools that run the PFN model.

*Practice Firm project ... [...] ... [and] ... the most significant moment in the experience of the Practice Firm (Pita-01)<sup>1</sup>.*

From a student perspective, trade fairs were also opportunities to meet people from other educational institutions who took part in the PFN, to make new friends, and to practice such skills as negotiation and sales.

### **10.4.2 The Final Stage**

The ‘final stage’ is how students referred to the final period in the PFN at the end of the academic year. In this phase, they had to balance the Pfu in which they had worked, and hand it over to another group. This period required them to work hard, especially if they were working in the finance sector.

*There are many important happenings [in the Practice Firm] ... but something that was really good in terms of learning was ... I think ... the last month ...to balance the Practice Firm<sup>2</sup> ... everybody had to hurry up*

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<sup>1</sup> I applied the following rules to the transcription of student interviews:

Firstly, I have tried to be as faithful as possible to the literal meaning of what I heard from students’ speech. However, as this is a translation from Portuguese, inevitably the transcripts represent my interpretation of students’ oral descriptions. As a result of this, I found it unnecessary sometimes to have a very detailed transcription of the data and have left out some repetitions and omitted redundancies and false starts, whenever I felt there was no distortion to the meaning. Secondly, I have avoided (not eliminated) the use of punctuations (comma, full stop) in transcriptions. I preferred to use (...) to separate chunks of what students said in order to maintain the flow and the meaning.

<sup>2</sup> I have decided to use the short term ‘Practice Firms’ instead of ‘Practice Firms Network’ in the interview transcripts. Whenever students or I referred, explicitly, to the network of Practice Firms I have used the term ‘Practice Firms Network’, however.



*... [...] ...to organise the portfolios ... that was the moment when we learned most [...] ... I found it interesting because everything we hadn't done during the year we had to do in a rush ... it was really interesting ... (MTS-02).*

### **10.4.3 Being a Manager**

The 'Being a Manager' theme highlighted some episodes that were important for the student, because s/he was playing the role of a 'manager' at the time in the PFN.

Normally, every student had the opportunity to play the role of a manager for some time in a job rotation system.

*When I was the manager ... because I was the leader ... I had to demand results from everyone ... [...] ... I was the last manager ... I took over the management to balance the enterprise ... and he [the tutor] ordered a portfolio with [documents] for each month ... and I had to organise everything ... [and we had problems] ... in the end ... [because] what we had in cash did not match the balance ... and I had to run after everything ... and organise people to run after things too ... that time was very challenging for me ... there is one thing that the teacher told me that I won't forget ... we had had a problem and I went to tell him ... 'that was not my fault ... the boys did it wrong ...' and he turned to me and said ... 'you were the leader ... you were the manager ... you were responsible ..., in the labour market, [when you are the manager] ... they are going to hold you responsible for results ... regardless of whether the fault was that of one of the employees ... (MTS-18).*

#### 10.4.4 Working in the Model

The 'Working in the Model' theme was used to describe some of the tasks which the students performed in the PFN, and also the students' points of view about working in different sectors in the model. The sectors were described in various terms. The finance sector was considered the most demanding sector in the Practice Firm, whilst the work in the HR sector was considered undemanding because, usually, there was little work to do. In fact, one student considered the HR sector almost useless. She describes:

*In the HR sector you are turned into a vegetable but you have the chance to observe what is expected from the other sectors ... and when you go to a most demanding sector you are well prepared ... [having been in the HR sector first] ... made me more relaxed to face the finance sector ... that tests my weak side ... the mathematical skills ... the mathematical reasoning ... [in the finance sector] ... you have to be careful ... [which I am not] ... everything has to be accounted for ... [...] ... in the HR I could see what would be expected when one was in the finance sector ... and I could be better prepared ...*

*When you said that in the HR sector you are turned into a vegetable ... what did you mean by that?*

*[laughs] ... because the HR function is to ... you are responsible for the other sectors ... as if you had to support them ... but in fact ... everyone*

*when they were in the HR sector ... I think ... few of them really worked ... you stayed there ... you made the call ... that's your function ... you read the correspondence ... you answered the e-mail ... and the rest of time you had nothing to do ... if someone needed help you gave it ... but in your sector ... you did nothing at the end of the day ... (MTS-10).*

### **10.4.5 Conflicts**

Conflicts are very common experiences in group work processes. This was no different for the students within the PFN: they experienced many sorts of conflict. There were descriptions of discussion over working less, and over working more in the PFN. For instance,

*One of the participants ... one of the employees monopolised the work ... she used to do everybody's task ... and the majority of us had nothing to do ... this could be seen as good 'hurray ... I've got nothing to do ...' but we didn't like it and we were against her doing our work ... (MTS-17).*

Managing to sort out conflicts in meetings was perceived as a good opportunity to reflect and learn.

### **10.4.6 Dealing with Errors**

The 'Dealing with Errors' theme described how students dealt with mistakes which they made while working in the PFN. Mistakes might have been things like 'selling

more than they had in stock', 'miscalculating the stock or the product price' or 'paying the same invoice twice'. One example, as described by the interviewee:

*... and our enterprise was making a loss ... and we didn't know how to make it profitable ... we were analyzing the balance sheet ... and we noticed that there was a discrepancy in the bank account ... [we had paid one invoice three times] ... so we went to talk with the bank [CESBRASIL] ...*

*Who had made the mistake?*

*One of our employees ...*

*And how did you deal with this mistake?*

*... the first thing we were worried about was how to sort out the balance problem... then we dealt with the employee ... we asked him to pay more attention ... and we had to report this accident to our boss ... who is the teacher ... and this employee had to do some extra work [in the Practice Firm] ... as a manager we talked to him ... maybe he had not understood how to carry out the routine and we explained it to him again ... (MTS-16).*

### 10.4.7 The Teacher's Role

Teachers played an important role in the PFN, mainly for younger MTS students. The roles varied from exercising the authority of a boss, as in an enterprise, to guiding the students and supporting them in doing the tasks. The following incidents refer to some of these roles.

*... I was really floundering in the class ... not doing the right stuff ... and he [the teacher] said ... this Practice Firm will have at least two extra tasks ... everybody froze ... he argued with me because I was late for the second time ... he is really strict with the timetable ... he tries to persuade you that you are really in a real enterprise ... (MTS-11).*

*... the director of the Practice Firm has a lot of influence in our experience ... [the name of the teacher] ... is a person who motivates us ... he is hard when he sees something wrong ... but helps ... and gives us motivation to do our tasks ... (MTS-20).*

### 10.4.8 Working in Groups

The 'Working in Groups' theme describes how students perceived the PFN as a group venture, and illustrates the importance they attributed to this form of learning. To be part of a group was perceived as important in order to achieve good results for the Practice Firm. To illustrate:

*... the Practice Firm discipline was the most interactive discipline we had in the faculty ... the one to which we devoted most of our efforts ... and where there were lots of conflicts ... in my Practice Firm I was the HR manager ... I am already an HR manager ... so I went to do this part [in the Practice Firm] ... and I had a lot of relationship problems in the Practice Firm ... the philosophy of the faculty in all disciplines is team work ... and this was really stressed in the Practice Firm ... that's when we noticed the importance of team work ... I already knew that team work is very important ... for this is my area ... but that's when many people perceived that team work is very important ... the one-for-all collaboration ... the one-for-all integration ... and to be judged as successful in the discipline ... the enterprise should be profitable ... (Pita-03).*

#### **10.4.9 The Initial Stage**

Some students considered the initial stage, or the first contact with the PFN, as an important step that would influence the whole experience that they would have in the Practice Firm. This first contact was strongly influenced by the teacher's approach to the model.

*I think that the most important day was the first day in the enterprise ...that's when our teacher ... who was the boss in the enterprise ... presented the sectors ... and showed in general the function of each sector ... this was the most important day to have an idea [of how the Practice Firm functioned] (MTS-10).*

Sometimes the initial phase was a time to negotiate roles in Practice Firms or to organise the starting up processes:

*We first thought ... where is the market booming to? ... tourism ... then we looked at the other Practice Firms and noticed that there were a lot of tourism enterprises so the competition would be tough ... after that we went for a bookshop ... there were none ... however ... to start up and organise the company would be very complicated and the time was short ... then we got the idea of Cachaça [a Brazilian alcoholic drink] ... (Pita-02).*

#### **10.4.10 Choosing the Business Sector**

Choosing the sector of business in which the group was going to operate was a crucial moment for the students in the PFN. This was especially important for Pitágoras' students because Pitágoras was introducing the model in the school and therefore all Pfus in the Faculty had to be initiated. The choice of the sector of business in which they were going to operate would have a huge impact throughout the period for the students. It was interesting to notice some of the criteria they used to make their choice and how this process created some conflicts in the group.

*One moment that was very nice was when we were going to decide what product we were going to offer in the enterprise ... we had a meeting to research what the market was demanding and to adapt it to our purposes in the faculty ... then we researched and noticed that sex products were an expanding market ... [...] but we could not go for it ...*

*it was impossible to market these products ... in other faculties ... in the trade fairs ... how could that be sold? (Pita-08).*

#### **10.4.11 Organizing the Practice Firms Units**

This theme referred to how students perceived the overall organisation of the PFN and the interaction of the elements in the system. ‘Organizing the Practice Firms Units’ incidents were usually long student descriptions of how their Practice Firm Unit was organised and operated. A brief citation that exemplifies this type of incident is as follows:

*To start up a business ... in a real enterprise ... everyone has a function ... then we thought in the following way ... whoever is more capable in the finance sector should be allocated to that sector ... whoever is more capable in the HR sector ... in the marketing sector ... the management director ... so we divided every function ... I was allocated to the sales and purchase sector with another colleague.... (Pita-08).*

#### **10.4.12 Creating Real Products**

Students in the PFN model are generally expected to deal with fictitious products. However, among the students interviewed, two groups had had experiences of dealing with ‘real products’. The transcription below shows how one Pfu created a travel service that aimed to take some students on a real adventure trip.



*... we made a partnership with a real enterprise ... Canela Gema [the name of the enterprise] ... and we wanted to organise a trip with our colleagues ... that was the part [in the Practice Firm] that really worked .....we planned the trip at the end of the first year to take place at the beginning of the next year ... [...] but this year the director [of the school] changed ... and when we went to talk to the new director she said no ... the previous one had accepted the idea ... (MTS-06).*

### **10.4.13 Growing Up**

The PFN was also perceived as a learning environment where one could observe how much people had matured. Some of these observations were on changes in the self, sometimes they were observations on the changes in others, as this description illustrates:

*We know we are growing up ... but in a classroom we are not aware of it ... then ... to join an enterprise is very important ... you know it is important to be responsible in there ... [...] ...many students feel like children in the classroom ... and when they start work ... they feel as if they have grown up ... I say that because ... the same students who were with me in the classroom were also in the Practice Firm ... but their behaviour was different ... in the classroom they were not that responsible ...in the Practice Firm they changed ... I have one example ... I had one classmate who in the classroom totally frittered away his time ... in the Practice Firm he was totally responsible ... with his tasks ... doing much more than he was asked to ... then I see that*

*people become more responsible [when they are] in the Practice Firm...  
(MTS-20).*

#### **10.4.14 Negative Points**

I named this theme ‘negative points’ because the interviewee’s intention in the interview was clearly to point out the various negative points that she had observed in her experience of the PFN model. In summary, these negative points were:

- a) The teachers were not prepared to direct the learning environment;
- b) The PFN was not about practising or applying theory;
- c) Indeed, we were really worried about the mark we might get in the discipline;
- d) It was embarrassing to have to assess our own classmates;
- e) The practice of ‘reciprocal deal’<sup>1</sup>;
- f) The PFN was not integrated with the Faculty pedagogical methodology;
- g) The PFN was not compatible with reality.

To illustrate point a):

*The discipline began very badly ... no orientation ... completely ... the teachers were not prepared to face the Practice Firm Network discipline ... not because they were bad teachers ... not because they did not have knowledge ... they did ... but they weren’t prepared to face the Practice Firm discipline ... it is completely different from ... the way of*

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<sup>1</sup> Reciprocal Deal was the practice of someone offering to buy from another company as much as they bought from one’s own company.

*conducting a normal class ... it is completely different from ... the didactic approach you would use in a normal class ... (Pita-06).*

#### **10.4.15 The Complexity of the Model**

Each individual student experienced the PFN model in a more or less complex way, and had different levels of understanding of the model. One student, for example, in trying to define what the PFN was for him, captured the complexity of the learning environment, mentioning several characteristics which would become a category of description in my later analysis. In the extract of the student's description below, I have highlighted these key words.

*The Practice Firm is **a discipline** that Faculty Pitágoras put in the curriculum ... to give students a practical task ... **a simulation** ... to let the student manage an enterprise, even if **a virtual enterprise** ... it was a great experience for me ... we had the opportunity to develop an enterprise from its inception ... the concepts ... mission ... vision ... the product ... to explore the market ... this was an important part ... because we decided to work in the drinks sector ... we were a Cachaça [ a Brazilian drink ] supplier ... **we had a real supplier** ... and we made all the contacts with this supplier ... he gave us all the information we needed to run the company ... the market ... the stock ... cost price ... sale price ... on everything we worked together with him ... as an experience it was worthwhile ... because the **enterprise was virtual** but **we had all the sectors that exist in a real enterprise** ... the finance sector ... the marketing sector ... the purchasing sector ... the logistics*

*area ... the human resources department ... we were divided in groups and each group was responsible for an area ... (Pita-05).*

#### **10.4.16 The Physical Integration of the Environment**

This theme is extracted from a description given by a mature student. He pointed out how the physical integration of the PFN was important to convey a holistic idea of the enterprise, how the functions were interrelated and how dependent they were on each other.

*...[in the Practice Firm you see the stuff ... because the Practice Firm is physically ... we are physically in the one room, everyone has his computer ... there are some tables ... the meeting room ... but everything is integrated in the same environment ... then you could see ... you were present ... you could see all sections of the enterprise ... people discussing ... trying to do things ... and you could see that ... sometimes they were going about things the right way ... sometimes not ... and you didn't have autonomy to give your opinion ... (Pita-09).*

He then makes the connection between this experience in the PFN and his experience in the real world:

*What made me see that ... what I found interesting ... [is that] ... in the real enterprise the departments [should] be integrated ... you need to find a way ... to know on-line ... each department ... for each department depends on the other ... you sell ... the sales depend on*

*production that depends on stock ... that depends on delivery ... that depends on the finance ... because in order to produce you have to ... if it is a commercial enterprise ... you have to have stock ... you have to have the cash flow, the bills payment, the bills receipts ... everything is integrated... (Pita-09).*

## **10.5 A Logical Organisation of the Themes**

The elaboration of this set of themes was very important to the analysis phase. It showed me that the PFN was a complex phenomenon in the eyes of students, and gave me some idea of how this complexity could be organised. The analysis of these themes helped me to understand that students perceived the PFN model as a sequence of three very distinct stages: an initial stage; an intermediate stage; and a final stage. Although any process can be distinguished by these three phases, the analysis of what constituted each of these phases is revealing about the nature of the PFN process.

The initial stage consisted of events that students performed at the beginning of a term. As the PFN is organised as a school discipline, at the beginning of each term (normally a semester), a new group of students joined the PFN model, and a group dropped out the PFN model. For the starting group, it was a time to take over the Pfu, to make new rules for the PFN, to organise and distribute functions, or to choose a new business to start up.

This initial stage regularly led the students to prepare for what seemed to be the main event in the PFN model: the trade fairs. In the trade fairs they practiced sales and

negotiation, and they generated revenue for the firm. These practices also created the internal flux of work to deal with both the supply and demand of products, and the book-keeping aspects. In the final stage the students balanced the enterprise and handed it over to the next group of students.

Although some themes are specific to a particular stage (for instance, 'trade fairs' is a theme linked to the intermediate stage), others, such as 'being a manager' or 'working in groups', might occur at any stage of the experience. However, there are further themes not associated with these three stages. For example, 'the teacher's role' is predominantly a description of how students perceived the role of the teacher in the model, while the theme that I called 'changing oneself' described how they perceived their personal development in the PFN. In the next page table, I show how the themes can be summarised in a logical structure.

**Table 6 – A Logical Organisation of the Themes**

<b>Stages</b>	<b>Initial</b>	<b>Intermediate</b>	<b>Final</b>
<b>Themes Associated with Phases</b>	The Initial Stage	Trade Fairs	The Final Stage
	Choosing the Business		
	Organizing the Practice Firm		
	Creating a Real Product		
<b>General Themes</b>	Being a Manager Working in the Model Conflicts Working in Groups Dealing with Errors The Teacher's Role Changing oneself The Complexity of the Model The Physical Integration of the Model Negative Points		

**Source: Research Data**

## **10.6 Summary of Chapter Ten**

In this chapter, I began the analysis of the research data by separating the data into two sets: on the one hand, the set of interviewer's interventions and, on the other hand,

the set of interviewees' outcomes. This separation showed the relationship between the kinds of interventions I made in order to achieve my research aims, and how interviewees responded to them.

This initial analysis of the data was considered important for three reasons: a) the amount of data seemed at first sight to be somewhat huge, and rather disparate; b) students showed a great variety in their descriptions of the PFN; and consequently c) the outcomes of descriptions given by students turned out to be more intricate than expected.

The outcomes of such student descriptions – sparked off by my interventions – gave rise to a series of student descriptions that I split into 'incidents'. These incidents were then classified into themes according to the main subject to which they appeared to refer. At the end of this process, a list of 16 'themes' appeared to me as a manageable set of data.

After this first level of analysis, I began to look at the incidents from a phenomenographic perspective. To do this, I constructed two case studies from the data: the first case study was constructed using the descriptions given by MTS students of the PFN, and the second using the descriptions given by Pitágoras students of their experiences. I show how these case studies were carried out in the next two chapters.



## **11 Chapter Eleven**

### **The Case Study of Pitágoras' Students**

#### **11.1 Introduction**

After organising the data into themes, I began to examine the data from a phenomenographic perspective. In order to do that, I decided to break the collection of interviews into two case studies, according to the two sites where I conducted interviews: the Faculty Pitágoras and MTS School. This chapter aims to explore Pitágoras students' descriptions of the PFN model. The next chapter aims to explore MTS students' descriptions of their learning experiences in the PFN. The case study of Pitágoras' students came first because it is composed of just nine students; this made the analysis easier to complete. It also touched upon the complexity of the model.

The separation of the interviews into two case studies was considered appropriate for two main reasons: firstly, because Pitágoras School had only recently been incorporated into the PFN model, as I have already mentioned. Pitágoras students participating in this research were the first students in the school to take part in the PFN model. This could also have made a difference in the way they experienced the model.

The second reason why I considered it to be useful to divide the data in two case studies was because the educational institutions were both physically and conceptually

separated. The MTS was a secondary educational institution, offering a technical qualification in management: a feature of the Brazilian educational system. On the other hand, Faculty Pitágoras was a higher educational institution, offering a bachelor degree in management education.

Operationally, this difference did not interfere with the dynamics of the model, as all participants in both schools should follow CESBRASIL's rules. However, students of MTS exhibited some slightly different characteristics to those of students at Pitágoras. Normally, MTS students were younger, which means that they had fewer years of schooling than Faculty Pitágoras students. Although the qualification offered by MTS was directed to the world of work, most of its students were expected to go into higher education. This age distinction may have made a difference in the way students experienced the PFN model.

### **11.1.1 The Outcomes**

From the analysis of Pitágoras students' descriptions, seven qualitatively different categories of experiencing the PFN were constructed. Pitágoras students described their experience in the PFN as a:

- 1) Pointless experience;
- 2) Discipline experience;
- 3) Group work experience;
- 4) Competitive experience;
- 5) Simulated experience;

- 6) Way of learning experience;
- 7) Realistic experience.

In this chapter, I describe further these seven categories. Before doing so, however, I will make a brief comment on the types of incidents mentioned by Pitágoras students in their interviews.

## 11.2 Pitágoras Students' Theme Table

**Table 7 –Themes Described by Pitágoras Students**

Themes	Number of Mentions
• Trade Fairs	7
• Organising the Practice Firm Units	3
• Working in Groups	3
• Choosing the Business	3
• Negative Points	1
• The Complexity of the Model	1
• The Physical Integration of the Learning Environment	1
<b>Total</b>	<b>18</b>

**Source: Research Data**

Nine students were interviewed in Faculty Pitágoras. Although Trigwell (2000) suggests that ten to fifteen descriptions are the minimum required in a phenomenographic study, nine students were considered sufficient here as they

represent a sub-sample within research which is describing the same phenomenon.

Table 7 shows the themes which Pitágoras students described in their interviews.

The description of the meaning of each theme was outlined in the previous chapter, Chapter Ten. The themes are listed in the table by frequency, suggesting that some kinds of happenings were more memorable than others. As can be seen in the table, trade fairs were the most frequent theme cited by Pitágoras students. Trade fairs seem to have caught the attention of students both in Pitágoras and MTS, possibly because they were very different events from those in which students were normally accustomed to take part.

As Pitágoras students were the first cohort of students using the PFN at the school, it is understandable that the start-up process and organisation of each Practice Firm unit captured their attention. This could explain why “Organising the Practice Firms Units” and “Choosing the Business” represented another significant theme in their descriptions. The recurrence of the theme “Working in Groups” may well be related to the fact that Pitágoras’ pedagogical philosophy stressed teamwork, as mentioned before.

Three other types of theme were described by different students: “Negative Points”, “the Complexity of the Model” and “the Physical Integration of the Learning Environment”. Among these themes, “Negative Points” is a special case, since it represented an apparently atypical interview. The student interviewed in this case was very talkative and seemed to have come to the interview prepared to have her say about what she considered to be the negative points of PFN. While in some interviews

I had to prompt students to talk, here my main task was to direct her not to digress from the main point – her experience of the PFN. In any case, in this interview I intervened less than I usually did and I let her talk freely. That does not mean, however, that her interview was considered superior or inferior in quality to the others, only that the interview was not divided into further themes.

### **11.3 Pitágoras Students' Categories of Description of the PFN**

I will now describe the seven qualitatively different ways of experiencing the PFN that were constructed from the data analysis of the description of Pitágoras students of the PFN. To accompany the description, I will provide one or two illustrative quotes to clarify the category<sup>1</sup>.

#### **11.3.1 The PFN as a Pointless Experience**

A 'pointless' experience describes students' description of the PFN model as a learning environment which they regarded as meaningless. In this way, in referring to a 'pointless' experience, what interviewees seemed to express was that taking part in the PFN had not benefited their learning. Students expressing this way of referring to

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<sup>1</sup> Two notes about quotes:

a) The quotes could not simply be interpreted literally. Quotes may hide meanings that are only transparent contextually – for instance, by the intonation in the speech, by the body language – for instance, a grin – or by something the interviewee had said before. I tried, as faithfully as I could, to capture this meaning. This is why sometimes the citation is longer.

b) Some quotes may be read as pertaining to more than one category. After reflecting on this, I came to the conclusion that this was not an inconsistency in the presentation of the data but a characteristic of the sample which I had in hand. Thus, the data may sometimes carry a range of meaning, out of which I take the appropriate meaning for the situation.

the PFN felt that the experience had been ‘loose’ and ‘confused’. Moreover, students expressed the idea that they had done the “discipline” because they were obliged to do so by the curriculum: therefore, it was an external demand on them, not their personal choice. As mentioned by one student,

*by and large we took the Practice Firm Network discipline ... it was a compulsory discipline and we had to do it because of the grade... otherwise we wouldn't do it ... anyway ... it was terrible ... a lot of problems ... anything you can imagine ... our class didn't like it ... actually ... on the last day [of the term] we celebrated the end of the Practice Firm... (Pita-06).*

### **11.3.2 The PFN as a Discipline experience**

In this category, the PFN was seen as similar to any other school discipline, such as Maths and Science. Students focused on the fact that the PFN was part of the curriculum, was compulsory, and that the Faculty and the teachers defined the rules that students should follow in the ‘discipline’. As a consequence of that, student priorities were centred on satisfying the demands of tutors and the way in which assessments were to be marked.

*If we didn't reach the goal ... we wouldn't get the mark ... and we were under pressure because of that ... (Pita-04).*

### 11.3.3 The PFN as a Group Work Experience

A ‘group work’ category was defined when students perceived that they were performing in the PFN as a group, or in a group, and not individually; when they noticed the importance of the group or the necessity of others in order to accomplish their part of the job in the model. In this category, students perceived ‘group work’ and ‘working in teams’ as the relevant unit of the pedagogical practice in the learning environment. Group work in the PFN sometimes corresponded to sectors, departments or functions as in real enterprises. To give one example:

*... the philosophy of the faculty in all disciplines is teamwork ... and this was really stressed in the Practice Firm ... that's when we noticed the importance of teamwork ... (Pita-03).*

Although teamwork was stressed by Faculty Pitágoras as one pillar of its pedagogical structure, it did not mean that teamwork was always viewed as a positive experience by the students in the PFN model. For instance,

*... we are only twelve people [in the Practice Firm]... and some of them are not committed ...this is a flaw and should be improved ... the assessment of the members of the Practice Firms ... [as you know] ... in every place there are those who lay down and go along ... for that reason ... I had to take some responsibilities over other sectors ...mainly in marketing which was one sector in our Practice Firm that did not work well ... (Pita-02).*

### 11.3.4 The PFN as a Competitive Experience

The PFN as a competitive experience emphasised the rivalry between the Pfus, or even between individuals in the PFN model. Describing the PFN explicitly in this way was rare in the interviews. However, the PFN as a competitive experience could also be inferred by the many conflicts that were related or mentioned. These conflicts may be interpreted as a competition for space and a voice in the group. One explicit statement of this category was given in the citation below

*[The trade fairs] ... were very impressive ... we made sales ... symbolic sales ... the customers did not take the product ... but they went out with the sales impressed on their mind ... there was a great competition between the Practice Firms in the Faculty ... it was a competition ... (Pita-05).*

### 11.3.5 The PFN as a Simulated Experience

In this category, the PFN was seen as a model or as a laboratory where business processes were simulated. Students perceived the PFN as trying to imitate something of the real world. Although the students were conscious that what they were doing was not 'real', they engaged in the situation or the event to play a role. In doing so they usually believed that the experience was important to perceive how things would be in the 'real-world'. For example,

*I think that the project is the opportunity to see how a real enterprise works ... to experience everything that happens in a [real] enterprise ...*



*the difficult times ... the crisis moments ... financial crisis ... personal crisis ... administration ... starting up ... (Pita-07).*

*... and for those who have never worked it is a fantastic experience ... [because] ... when you graduate and go into an enterprise ... [you will have] some idea of a real enterprise ... whatever it is ... micro, small, medium or big ... you have in there everything that happens in a real enterprise ... the experience is really interesting ... I think that every school should have one [practice firm] ... (Pita-09).*

### **11.3.6 The PFN as a Way of Learning Experience**

I called this category a ‘Way of Learning’ experience to emphasise the fact that students begin to stress how and what they had learnt through the PFN experience.

This category is qualitatively different from the previous ones, not only because students are getting something out of the experience, but also because students began to perceive how this was happening. For instance, sometimes they learnt because they were performing tasks, sometimes because they had committed mistakes. I come back to these differences when I explain the structure of the outcome space in Chapter Thirteen.

*My experience ... that was the most significant ... was that I had the idea of exactly how the finance function of the enterprise works ... as I was in charge of the finance sector ... from the start up period ... all types of spending ... payment slips... everything ... I had to pay attention to this*

*all ... although we had studied four years I had no practical experience in this area ... finance area ... this gave me a lot of experience ... I know that I can go into the finance sector now and won't feel lost ... I have the idea of how to do it ... I find this an important thing in the Practice Firm (Pita-04).*

### **11.3.7 The PFN as a Realistic Experience**

Realistic was considered here in contrast to 'simulated'. In this category, the PFN was seen as consisting of real enterprise processes. However, the perception of the PFN as a real enterprise process does not mean that the participants were naïve about the pedagogical and virtual nature of the concept. In fact, the participants related the experiences they had in the learning environment as 'real' in their own right, that is, the simulated character of the learning environment was disregarded and the processes that constituted the learning experience were experienced in a lively way. Two examples are:

*When I had the first contact with the Practice Firm I thought 'buy nothing and sell nothing and this is an enterprise?' I doubted. But afterwards we had processes that were so real ... that you begin to worry ... [...] Can I do that? (Pita-01).*

*We searched for a partner ... the Coluninha [name of the Partner Company] really existed ... one of our group mates was a relative of one of the directors of the company ... and at our first trade fair he brought*

*all types of products he had in the company ... in order to promote their company ... the outstanding point in all the project was that ... our enterprise ... he proposed that we went real ... he liked our work so much ... and this would be interesting for him ... for his enterprise was a small company ... it lacked promotion ... and our company would do that for him ... so it was our idea to export the drink he produced ... he exports to just one country in Africa ... we had the idea of exporting the drink to Japan, Asia that are the biggest boom markets ... (Pita-02).*

#### **11.4 Summary of Chapter Eleven**

In this chapter, I constructed a phenomenographic analysis of my research data, showing how Pitágoras students described their experience of the PFN in seven qualitatively different categories. I described and illustrated each category with quotations from Pitágoras students. The categories showed that experiencing the PFN in the case of Pitágoras students ranged from a completely ‘pointless experience’, that is, an experience that had no pedagogical meaning, to a ‘realistic experience’, that is, experience in which they immersed themselves as if it was happening in the ‘real world’ of enterprise.

The seven categories constructed from Pitágoras students’ descriptions of their experience of the PFN are neither individual styles nor preferred ways of approaching the model. They are, in fact, an interpretation of contextual relationships from students describing their experience, that is, a condensed set of categories derived from their descriptions which help to understand how students relate to the PFN model.

To compare Pitágoras students' experience with that of MTS students, I made a similar analysis, now taking MTS students' description of their experience in the PFN. This analysis is presented in the next chapter.

## **12 Chapter Twelve**

### **The Case Study of MTS' Students**

#### **12.1 Introduction**

The aim of this chapter is to describe MTS students' categories of experiencing the PFN. In the end, the same categories emerged from the analysis of the MTS students' descriptions of the PFN as for those of the Pitágoras students. The data analysis of MTS' students showed that they categorised the PFN as a:

- 1) Pointless experience;
- 2) Discipline experience;
- 3) Group work experience;
- 4) Competitive experience;
- 5) Simulated experience;
- 6) Way of Learning experience;
- 7) Realistic experience.

Although the categories are repetitive, they are described and illustrated once again in this chapter, to show minor differences between the perspectives found within each group. These differences will be explored further in the next chapter, in which I present an overall structure of the outcome space taken from both case studies.

Before I describe each category of MTS students' descriptions of their experiences, I present a brief comment on the themes which were the basis to my classification of their descriptions.

## 12.2 MTS Students' Theme Table

**Table 8 – Themes described by MTS Students**

Themes	Number of Mentions
• Trade Fairs	14
• The Final Stage	8
• Being a Manager	6
• Working in the Model	5
• Conflict	5
• Dealing with Errors	5
• The Teacher's Role	5
• The Initial Stage	3
• Creating a Real Product	2
• Changing Oneself	2
• Choosing the Business	1
• Working in Groups	1
<b>Total</b>	<b>57</b>

**Source: Research Data**

The MTS data sample is composed of 20 interviews. Table 8 shows the themes described by MTS students in these interviews. In the table, the themes are shown in

order of frequency, with the most frequent themes higher in the table. The MTS spectrum of themes was larger than those of Pitágoras students, partly because the sample of students is bigger, and partly because the PFN model had already been consolidated prior to the interviews in the MTS school, so these students had a larger spectrum of experiences to draw upon.

Among these themes, some are particularly noteworthy. As can be seen, 'Trade Fairs' were, as they had been in the case of Pitágoras students, the most frequent event cited in the interviews. This prominent role of trade fairs in the model is perceived in many of the categories of description presented in the next section. The 'Final Stage' was another prominent theme because, as students recounted, it was a very demanding phase in the Practice Firm. These were followed by a set of themes that were mentioned regularly in the interviews: for instance, 'Being a Manager'. At the bottom of the table were two themes which were cited only once: 'Choosing the Business' and 'Working in Groups'. One reason why 'Choosing the Business' was referred to just once in MTS may be the fact that the PFN model was already consolidated in MTS, and its students usually took over enterprises from previous groups.

One may also question why 'Working in Groups' was referred to just once, since the model is workgroup-based. In this case, it should be noted that many of other themes cited are workgroup-related; for example, 'Working in the Model' or 'Conflict'. However, only one student description was considered to be specifically about working in groups.

## 12.3 MTS Students' Categories of Description of the PFN

Below, I describe the main characteristics of the seven categories of description constructed from MTS students' experiences of the PFN, and give examples that show how these categories are related to the similar categories of Pitágoras students.

Despite the fact that the categories are the same for both groups, there were slight differences in perspective. These differences will be explored in the next chapter, when I present an overall picture of the outcome space of students' experience of the PFN.

### 12.3.1 The PFN as a Pointless Experience

As in Pitágoras' categories, the 'pointless' category of experiencing the PFN in MTS's descriptions referred to some degree of disillusion with the model. This disillusion was linked with, for example, the inability of the model to reflect the real market, or with the repetition of routine processes. Students also did not take long to realize that the model was fragile, that it had some deficiencies, and that it was possible to circumvent the purposes of the learning environment.

*... but as time went by ... I came to know that my interest in the Practice Firm was ... I myself could not explain it ... (laughs) ... why I was so interested in ... I noticed that ... I'm doing my work here ... when the time of trade fairs comes around ... people will say ... 'buy from me and I will buy from you' ... why am I working to death this way? ... (MTS-09).*



*to be honest? ... I think that I haven't got much out of it ... like I said ... we went every week ... to stay one whole afternoon in the school ... for one year ... at the end it is tiresome ... the [motivation] is gone ... I think that if it were shorter ... four months maximum ... it would have achieved its aim ... after a while ... there's not much to do there ... you stay there for ... nothing ... you pay the bills ... you do the payment slips ... that's all ... you have lost the motivation ... (MTS-06).*

### **12.3.2 The PFN as a Discipline experience**

In this category, the teacher was seen as a prominent figure in the system. Here he – one should note that in MTS all teachers in the PFN model were male – performed the traditional role of a lecturer: delivering lectures and assignments to be done, as exemplified in this transcript:

*The first contact we had with the Practice Firm was a little different from the others ... our teacher explained to us what was a business environment, macro environment, micro environment, market, client, supplier ... and he asked us to make an environmental analysis of our company ... I think this was an important fact because ... we talked to our colleagues ... and we could see that they had not had the same grounding ... they had gone straight away to the computer ... to the virtual market ... (MTS-09).*

Another instance of the PFN as a Discipline experience is exemplified by the transcript below. As the PFN is a model inserted into the curricular calendar, students expect the experience to end in synchrony with the school calendar.

*...[ at the end of the semester] ... in the last day ... everybody was eager to go to holidays ... and the Practice Firm stuck us here ... some three Practice Firms ... trying to balance the enterprise to have the mark ... running after [Teacher's name] ... for help ... 'come here, please [Teacher's name], is that right? is that right? (MTS-11).*

### **12.3.3 The PFN as a Group Work Experience**

The PFN as a 'group work' category was experienced in many ways. Sometimes it was perceived as a way to achieve the goals of the Practice Firm; other times as a way of socialising. There were times when 'group work' was described as a moment to help others to finish a difficult task, and other times when 'group work' was described as a time to reflect on one's own actions and challenge beliefs. Here are some examples:

*what impressed me in the Practice Firm was the trade fairs ... we joined the group to go to Contagem<sup>1</sup> ... we had to talk to people from all over the State ... we came to know a lot of people ... and this helped us [as a group] to work in the Practice Firm ...(MTS-19).*

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<sup>1</sup> A city in Brazil

*The stock control was wrong ... and we all went to give a hand ... I had been in the logistics [sector] before so I knew how to deal with the problem ... I thought I could help ... (MTS-08).*

*in the meeting I felt very sad and very happy at the same time ... I felt sad because [I understood that] I had worked alone ... not giving my colleagues the chance to work ... [and I felt happy because I understood that] ... I could work with someone with whom I found it difficult to cope ... without conflicts ... (MTS-13).*

#### **12.3.4 The PFN as a Competitive Experience**

As was the way in the Pitágoras case study, the PFN seen explicitly as a competitive experience was rare in the MTS sample. Nevertheless, this type of experience did occur. This time it was expressed as a competition between individuals, as shown in this example,

*... there [in the Practice Firm] ... you need each other to do your job and if someone does not do his share this affects the other ... and there is always a comparison between people ... someone is doing better ... you have to equal it... or someone is doing worse ... you have to help ... (MTS-15).*

### 12.3.5 The PFN as a Simulated Experience

Experiencing the PFN as a ‘simulated experience’ describes students’ perception of the model as a learning environment in which they performed some role in a simulated way in order to gain knowledge of how that role would probably be in the ‘real world’ of management. In this kind of perception of the PFN, students were aware of the fact that what they were doing in the PFN was just a rehearsal; it was intended to be useful for something that would happen later in their working life. For instance,

*I think that [the Practice Firm] was very important to me ... I learnt a lot ... I learnt a lot about several parts of a company ... marketing [for instance] ... and I think that I learnt a bit about a company taken as a whole ... So, I had an idea of the reason why to use marketing ... and the need for each part of the company to go along well ... (MTS-08).*

*The Practice Firm is maybe the most important phase of learning in the college ... it is [the phase] that really enables you [to work] in a company. Our course is about these things ... and in the Practice Firm you can apply what you learned ... (MTS-04).*

### 12.3.6 The PFN as a Way of Learning Experience

I use this category to demonstrate students’ perception of the PFN model as a ‘way of learning’. In this category, students expressed the idea that the PFN was useful to teach them something. However, it is not the content that is stressed by this category; instead it is the way by which the student relates to learning that is important here.

There were several different ways in which they learned in the Practice Firms. The two transcriptions shown below demonstrate that they learned, for example, by ‘following instructions’ or by reflecting on the mistakes they had committed.

*I think that [one important moment] was to balance the work of the enterprise in July ... it was a busy time because ... if you do not follow the teacher’s instructions ... sometimes a little mistake may mean a mismatch in the balance sheet in the end of the term ... then you have to check the previous files again and again ... something you missed to pay ... [for instance] ... compromise the final result ... so we struggled to balance the work of our enterprise ... there were too many things that were wrong ... (MTS-03).*

*... The Practice Firm was a very good experience I had ... I think I learned a lot in the Practice Firm ... [for instance] ... how to deal with people ... I think ...today ... [if I had the chance] to be in the Practice Firm today ... I would do everything different ... of which I did ... [...] ... I made so many mistakes ... [but] ... I learned with these mistakes ... (MTS-05).*

### **12.3.7 The PFN as a Realistic Experience**

Students experiencing the PFN as a ‘realistic experience’ described the ‘realistic’ nature of the model. By realistic, they meant that the experiences they had in the model were not simulated. This reality of the model came about basically in two

ways: either students put aside the simulated nature of the model and lived the reality of the model ‘within the model’, or students felt that the situation traversed the borders of the model and turned out to be real ‘outside the model’, as in these examples,

*... I was the HR manager ... and in the Practice Firm we have a [rule that] ... you can only have a certain amount of absence ... [...] ... the limit is five absences ... [...] ... and in my enterprise I had one such case ... that I had to sort out ... [when the student had the fifth absence] ... it was a big quandary ... to fire the student or not ... and I had to organise the stuff ... this was the most intricate fact in the Practice Firm for me ... this involved not just myself but also the teacher and the school supervisor ... in a real enterprise the manager would have to decide ... [...] ... this was really confusing ... [...] that was the moment that I realized that I was in an enterprise ... even simulated ... [...] ... but I think that I learned a lot with this ... [...] ... how to deal with people ... (MTS-04).*

*... in my Practice Firm ... I was responsible for organising a football cup ... because we had a sports company ... this was the greatest experience I had in the Practice Firm ... because to organise an event is hard ... I couldn't imagine how hard it could be ... [...] ... we had eight teams in the cup ... we had never got eight teams in the cup ... and everything was ok ... at the end we celebrated with an ice-cream festival*

*... we learned a lot how to deal with people ... because we had a lot of trouble with people ... (MTS-18).*

## **12.4 Summary of Chapter Twelve**

In this chapter, I showed how MTS students' interviews led to the categorisation of seven different ways of experiencing the PFN model. I showed that MTS students' categories of description of the PFN could be structured in the same seven categories as those constructed from the description of Pitágoras students. I described and illustrated these categories with quotations from MTS students.

Despite the fact that students' experiences of the PFN model were described in both case studies as composed of the same set of seven categories of description, I noticed some differences in how students of each educational institution approached the situations and described their experiences. These internal variations within categories were considered sub-categories of the main category.

The whole set of data were then analysed again to form a joint overall outcome space of both sites. The new expanded outcome space was then constructed to accommodate the variation within each category. This is what I show in the next chapter.

## **13 Chapter Thirteen**

### **The Structure of the Outcome Space**

#### **13.1 Introduction**

In the two previous chapters, I presented an analysis of the data separated into two case studies based on the sites where I conducted my research. One case study represented an analysis of the experience of Pitágoras students of the PFN, and the other case study an analysis of the experience of MTS students of the PFN.

I divided the analysis of the data into two separate case studies to facilitate a phenomenographic construction of categories of description. The intention was to compare how the different settings had influenced the students' conceptualisation of their learning experiences in the PFN model. In the end, I found that students from both sites described the model in terms of a very similar structure and that I could therefore construct a similar set of categories of description.

However, I also observed that, although the descriptions given could be encompassed within the same category names, there was variation within each category demanding a construction of subcategories to demonstrate these variations. The construction of a structure of an outcome space that could embrace both the categories and the subcategories of students' experience is the first aim of this chapter; the resulting outcome space is called Version I.



The second aim of this chapter is to show how these categories and subcategories could be rearranged into two dimensions to better represent the experience of students. These two dimensions were called 'meaning' and 'structure' and the resulting outcome space was called Version II. Finally, this chapter aims to present the initial conclusions of this study.

### **13.2 The Overall Structure of the Outcome Space –Version I**

I begin with the presentation of the overall structure of the outcome space of students' conception of the PFN as a joint construction of the outcome spaces of both Pitágoras and MTS students. As was shown in the construction of the two case studies, Pitágoras and MTS students had similar conceptions about their experiences in the PFN. Students from both sites experienced the model in a range that could be classified in seven categories of description. The students described the PFN as a

- 1) Pointless experience;
- 2) Discipline experience;
- 3) Group work experience;
- 4) Competitive experience;
- 5) Simulated experience;
- 6) Way of Learning experience;
- 7) Realistic experience.

These categories were arranged in a way that ranged from a complete disengagement with the experience, seeing it as nonsense, to a complete engagement with the model, seeing it as realistic in its own right. Between these two extremes, the categories were

arranged to show an increase in flexibility and a decrease in control. A 'Discipline experience' category denoted that students perceived the PFN as the application of the same rules applied to other disciplines in the school, and a 'Way of Learning' category denoted students' perception of the PFN as a flexible learning environment in which they learned in different ways and at a different pace.

Although there were similarities between students' experiences of the PFN model in Faculty Pitágoras and MTS, and these similarities could be formulated in one and the same set of categories, I also perceived some differences within the categories of description. These differences *within* categories were considered to be subcategories of a more general category: they expressed variation within a category of description. For example, category (a), the PFN as a 'pointless' experience, was not experienced as a unitary phenomenon. Three subcategories were assigned to explain the variation within this category: a subcategory that I called 'contrary to reality'; a subcategory that I called 'duty'; and another that I termed 'routine'. Each subcategory helps to understand how students experienced the major category.

It should be noted, however, that the outcome space of students' experiences of the PFN is not a segregation of individuals into a category box; rather, it represents the different perceptions that arose out of the interviews and the analytical connections that could be constructed between them. As I have already described the meaning of the categories in the two case studies (Chapters Eleven and Twelve, above), I will concentrate in this chapter on describing the subcategories. I will also develop further the subcategories in each case. In the table below, I show the categories and

subcategories of students' experience of the PFN, then I describe the meaning and interrelations among them.

**Table 9 – The Overall Structure of the Outcome Space –Version I**

Categories	Subcategories
1) Pointless experience	Contrary to Reality
	Duty
	Routine
2) Discipline experience	Discipline
	Project
3) Group Work experience	Social Pressure
	Team Work
4) Competitive experience	Competition between Individuals
	Competition between Pfus
5) Simulated Experience	Simulation as Planned Events
	Simulation as Occasional Situations
6) Way of Learning experience	Learning by Instruction
	Learning by Example
	Learning by Doing
	Learning by Error
7) Realistic experience	Realistic Constrained by the Model
	Realistic Outside the Model

**Source: Research Data**

### 13.2.1 The PFN as a Pointless Experience

#### Subcategories

- a) **Contrary to reality**
- b) **Duty**
- c) **Routine**

#### a) **Contrary to reality**

Students who experienced the PFN in the ‘pointless’ category within a ‘contrary to reality’ subcategory perceived the PFN, or at least part of their experience in the PFN model, as unconnected to reality. This meant that students did not perceive the PFN as having any kind of resemblance with the ‘real world of work’, as their tutors claimed. The PFN, according to these students’ selected descriptions of their experiences, was a waste of time and they had not learned from it. The main complaint was that the messages they were receiving from the experience in the PFN model did not accord with their daily experience. These views were expressed in descriptions like these:

*in my class there were a lot of people who had work experience or were entrepreneurs ... and sometimes these people confronted what the Practice Firms’ tutors used to say ... they said ... ‘this is not that way in reality ... actually things happen this way’ ... [but] the teachers used to say ... ‘in the Practice Firms this should be done in this way’ ... and they [the entrepreneurs] argued ... ‘so you are not lining the theory up to the practice’ ... (Pita-06).*

*I think that the Practice Firm ... I don't know if it was interesting ... if they had the intention to insert this project in the curriculum to familiarise us with ... the real market ... I think it was not worthwhile ... because the real market is really, very, very different ... (MTS-09).*

### **b) Duty**

The second subcategory in the 'pointless' category was classified as 'duty'. Duty was a variation of students' perception of the 'pointless' category in which the PFN itself, or the activities which students carried out in the PFN, were felt to be compulsory. Therefore the PFN itself, or those activities in the PFN, were imposed on them from outside; sometimes by the teacher, sometimes by the curriculum of the course. They would not take part in the PFN or in the activities if they were not obliged to; if the PFN or those activities were not to be assessed. The following quotation illustrates such a view:

*by and large we took on board the Practice Firm discipline ... it was a compulsory discipline and we had to do it because of the grade... otherwise we wouldn't do it ... anyway ... it was terrible ... a lot of problems ... anything you can imagine ... our class didn't like it ... (Pita06).*

### **c) Routine**

In the 'pointless' category, some students experienced the PFN as 'routine', that is, the experience of repeating the same activity without any learning purpose. This subcategory of their experience was expressed in citations such as:

*... these are the most important facts ... the rest is routine ... you get in the Practice Firm ... turn on the computer ... do the reports ... do this and that ... routine ... every day the same things ... sometimes [when] you have a problem ... you call in the group to sort it out ... (MTS-03).*

*to be honest ... I think that it is not ... I did not make much out of this ... because as I told you ... we went there every week ... spent the whole afternoon in the school ... for one year ... at the end it was tiresome ... I think that if it was less time ... four months at most ... we'd have reached the goal ... after some time ... you have nothing to do in there ... you stay there doing nothing ... you pay the enterprise bills ... do the pay slips ... that's all ... you have lost the enthusiasm that was there at the beginning ... (MTS-06).*

### **13.2.2 The PFN as a Discipline experience**

#### **Subcategories**

##### **a) Discipline**

##### **b) Project**

##### **a) Discipline**

The PFN, when seen from the viewpoint of the 'discipline' subcategory in the Discipline experience category, stressed the elements and activities that are normally recognised as characteristics of a lecture: a much more traditional learning environment in schools. These features are, for instance, the presence of a teacher, the

exposure to content, and a broad orientation to the application of knowledge that had been learned within other disciplines such as marketing or finance. Two examples of this subcategory are:

*The course began very badly ... no orientation ... completely ... the teachers were not prepared to deliver the curriculum in the Practice Firm ... not because they were bad teachers ... they were not ... but they weren't prepared to face the Practice Firm discipline ... it is completely different ... the way to deliver the course ... it is completely different from a lecture ... the didactic approach you would use in a lecture ... [and] ... the evening class was enormous ... each work group had fourteen to fifteen students ... the morning class had only sixteen students ... so we were divided into two groups of eight students ... each Practice Firm had eight people ... I think that was much better than the evening class ... in the evening class it was difficult to share the tasks among the students ... on the contrary ... in the morning each one had much more work to do than we could support ... and the project was the same ... the discipline was the same ... (Pita-06).*

*I think that [the Practice Firm] is a valid experience ... you learn in the school ... making the relationship with other disciplines ... seeing what you learnt in theory and aligning it with the practice ... I think it was interesting ... (Pita-07).*

## **b) Project**

When the PFN was seen in terms of the subcategory ‘project’, it was compared to an activity that was carried out independently of individual students. The Pfus would exist independently of the student and teachers since, at the end of the term, one group would hand over the Pfu project to another group. This can be shown by the following quotation:

*I remember the presentation I did to the freshers ... those who were going to take over the Practice Firm ...*

*Where was it?*

*In the lecture theatre ... all the staff [of the Practice Firm] were on the stage ... the teacher had chosen one to talk about the enterprise ... and we got very nervous ... it is a huge responsibility ... but we helped each other and the presentation was cool ... that was the last task ... that ended our participation in the Practice Firm ... being there ... done that and finished ... (MTS-02).*

### **13.2.3 The PFN as a Group Work Experience**

#### **Subcategories**

- a) Social Pressure**
- b) Team work**



### **a) Social Pressure**

The ‘social pressure’ subcategory in the ‘Group Work’ category is used to express the idea that students experienced their participation in the group as an obligation. The concept is very similar to the meaning of ‘duty’ in the ‘Pointless’ category, although here the sense of ‘duty’ was experienced as a social pressure, in contrast to ‘duty’ experienced as an external imposition in the ‘Pointless’ category. Students who experienced their work in groups in the social pressure subcategory, in contrast to ‘duty’ experienced in the ‘Pointless’ category, seemed to have taken something out of the experience, as illustrated by this comment:

*I learned a lot how to work in teams during the six months of the Practice Firm ... [maybe because] ... the type of assessment that we had in the Practice Firm didn't motivate some of the students to be dedicated ... and learn ... to learn in the Practice Firm is for those who want to... since in the Practice Firm you have grades and you can pass or fail ...then if someone in the group doesn't do his part ... you do it for him ... because you can't afford to fail because the other is not serious ... that's why I learned a lot about working in a group ... (Pita-02)*

### **b) Team work**

Students whose statements were classed within the ‘teamwork’ subcategory in the ‘Group Work’ category stressed the importance of working in groups to achieve goals in the PFN. In some cases, the team was seen to be more than a group of people trying to complete tasks; it was also perceived as an opportunity to make friends and help others. Some expressions of this variation are cited below.

*... the philosophy of the faculty in all disciplines is teamwork ... and this was really stressed in the Practice Firm ... that's when we noticed the importance of teamwork ... (Pita-03).*

*... the stock control was wrong ... for the sales order was wrong ... it was at the end [of the semester] ... and we were a bit tired ... [...] ... and this was the last thing to do in the enterprise ... and this took everyone in the enterprise ... [...] ... everyone was eager to finish ...*

*Were you responsible for any task?*

*I was from the marketing sector.*

*Why were you, from the marketing sector, working on the stock?*

*The stock control was wrong ... and we all went to give a hand ... I had been in logistics before so I knew how to deal with the problem ... I thought I could help ... (MTS-08).*

### **13.2.4 The PFN as a Competitive Experience**

#### **Subcategories**

- a) Competition between individuals**
- b) Competition between Pfus**

### **a) Competition between individuals**

Although there were few expressions of the PFN as a competitive category, two subcategories could be evidenced in the students' descriptions. In one subcategory, competition was seen as a rivalry between individuals within the PFN, as shown in this comment:

*... and there is always a comparison between people ... someone is doing better ... you have to equal ... (MTS-15).*

### **b) Competition between Pfus**

Another subcategory within the competitive category was defined as 'competition between Pfus'. Students competed both to have the most profitable company in the PFN, and to show a very impressive PFN to the public and to the tutors in the trade fairs. For example,

*[The trade fairs] ... were very impressive ... we made sales ... symbolic sales ... the customers did not take the product ... but they went out with the sales imprinted on their mind ... there was a lot of competition between the Practice Firms in the Faculty ... it was a competition ... (Pita-05).*

## **13.2.5 The PFN as a Simulated Experience**

### **Subcategories**

#### **a) Simulation as planned events**

## **b) Simulation as occasional situations**

### **a) Simulation as planned events**

Statements made which fitted in to the ‘simulation as planned events’ subcategory stressed the very nature of the PFN as a simulated environment. Throughout their experience in the PFN, students were aware that the learning environment was simulated (except when they express their involvement in the PFN as a realistic experience, as explained below). They knew what was expected from them, and the main activities that were supposed to happen in the learning environment. For example, they knew that they were expected to participate in the trade fair; that they were expected to balance the Practice Firm and to hand it over to the next group. Thus these events were planned events in the PFN.

The most outstanding planned event in the PFN seems to be the Practice Firms trade fairs, as confirmed by the number of times this event was cited both in Pitágoras and in MTS’s table of themes (see the Table of Themes in Chapter Ten). The trade fair was, as described by one student,

*... an event ... organised by the educational institution ... that opens the institution doors to the public ... and turns us into [entrepreneurs]... we have to sell our products ... in a simulated way ... to the public ... and other entrepreneurs of Practice Firms ... from PUC, SEBRAE<sup>1</sup> ... the intention of the trade fair is to give the Practice Firms the opportunity to show their products and make sales ... the trade fair is a very*

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<sup>1</sup> Institutions using the model.

*outstanding point in the Practice Firm project ... [...] ... the most significant moment in the experience of Practice Firms (Pita-01).*

#### **b) Simulation as occasional situations**

Another way of students experiencing simulation in the PFN model I classified as 'occasional situations'. Occasional situations were fortuitous, rather than planned opportunities in the PFN which were used to simulate a learning process. Sometimes these occasional situations were used to cheat the model. The quotations below represent two good examples of these uses. In this first example, simulation as an 'occasional situation' is illustrated by the fact that the interaction that the student is performing with the 'customer' is seen as a 'test', such as an oral examination in which he is being tested as a negotiator.

*... in the Practice Firm trade fair I had a situation where I had to enter a partnership with another Practice Firm ... [...] in fact this customer came to test me as a negotiator ... (Pita-05).*

In this second example, simulation as an 'occasional situation' was created by the students to deceive the model, playing what I called couple-sales or reciprocal dealing.

*The other thing we did ... not in my group but another group ... someone had a friend who took part in a Practice Firm in PUC [another institution that used the Practice Firm model] ... what happened? ... they got a deal ... the one bought the other ... the other bought the one*

*... we played this game all the time to reach the profitability that the tutors wanted ... (Pita-06).*

### **13.2.6 The PFN as a Way of Learning Experience**

#### **Subcategories**

- a) Learning by instruction**
- b) Learning by example**
- c) Learning by doing**
- d) Learning by error**

#### **a) Learning by instruction**

Statements made by students which fell into the ‘Learning by instruction’ subcategory expressed the idea that the student learnt in the PFN model when they were told, for example, how to perform a task. This role was attributed, above all, to the teacher, as in the example below, but it could sometimes be attributed to a colleague.

*As a teacher ... he is there ... to explain the subject ... [to clarify] your doubts ... without the pressure of a boss ... to say ... do this or that way ... it is gonna be better ... (MTS-12).*

#### **b) Learning by example**

Students who expressed themes falling into this variation of the category mirrored their behaviour on that of others, normally the teacher, learning from their example how to act, as in this example,

*... talking to the teacher we discovered that everything [the catalogue prices] that had gone to the trade fair was completely miscalculated ... the prices [of the products] were lower than they should be ... the loss would be huge ... and everybody was in despair ... not knowing what to do ... we rang the people who were in the trade fair and we talked to them ... 'stop the sale' ... and they replied ... 'it's impossible ... we are selling' ... [noticing the despair] ... the teacher calmly said ... 'pass me the phone' ... and he talked to them ... explained what had happened ... calmly ... and we noticed that our despair was meaningless ... we had made a mistake ... we would have to carry that mistake ... but that it was useless to be angry ...[...] ... I think it was a learning point to see how the teacher dealt with the situation ... the calmness ... (MTS-14).*

### **c) Learning by doing**

In the 'learning by doing' subcategory, students expressed the view that they performed activities in the PFN and that, by doing so, they learnt. For instance,

*My experience ... that was the most significant ... was that I had the exact idea how the finance function of an enterprise works ... as I was in charge of the finance sector ... from the start up period ... all types of spending ... payment slips... everything ... I had to pay attention to all of this... although we had studied four years I had no practical experience in this area ... finance area ... this gave me a lot of experience ... I know that now I can go into the finance sector and won't feel lost ... I have an*

*idea how to do it ... I find this an important thing in the Practice Firm (Pita-04).*

#### **d) Learning by error**

In the variation expressed within the subcategory ‘learning by error’, students described the role of mistakes in the learning experience. Learning by error was also experienced as a teacher’s orientation to the model, that is, students perceived that some teachers believed that learning by error was an excellent strategy to focus the attention of the students and leave a permanent impression in their minds. Take this example,

*One thing that I remember is [the time we spent] to balance the enterprise ... we definitely regretted the things we did [in the beginning] with no thought ... everybody does ... I did say to [name of the teacher] ... ‘why don’t you tell the freshers ... organise the enterprise in the beginning so you have less work at the end ...’ and he replied ... ‘you learned this at the end, didn’t you’ ... ‘yes, I did’ [I replied] ... ‘so, let them [also] learn at the end ... let them (\*\*\*) themselves’ ... (MTS-11).*

### **13.2.7 The PFN as a Realistic Experience**

#### **Subcategories**

- a) Realistic constrained by the model**
- b) Realistic outside the model**



**a) Realistic constrained by the model**

Students who expressed ideas which fit within the subcategory of experiencing the PFN as a realistic experience constrained by the model, saw the experiences they were having at the PFN as ‘real’, that is, not simulated or academic. Nevertheless, the experience was bounded within the PFN model. The students described the activity as real, but the activity itself was constrained by the artificial world of the PFN; it did not touch the ‘real-world’ outside the model. It is worth comparing this to the next subcategory to perceive the difference. To illustrate this subcategory take this example

*I did the website [of the Practice Firm] ... [...] ... when I was in the marketing sector ...*

*How was the experience of doing the website?*

*It took me a lot of time ... I based our site on CESBRASIL’s site ... it was a good marketing strategy [for my Practice Firm and] ... it took me a lot of time ... but it was worth doing ... (MTS-02).*

**b) Realistic outside the model**

On the other hand, students who described their experiences as ‘realistic outside the model’ saw those experiences as transcending the boundaries of the model and having consequences outside the PFN. On occasions, these facts led to complicated relationships between students, the PFN staff and ‘real world’ agents, as in this example:

*... I was the HR manager ... and in the Practice Firm we have a [rule that] ... you can only have a certain amount of absence ... [...] ... the limit is five absences ... [...] ... and in my enterprise ... by good or bad luck ... I had one such case ... that I had to solve ... [when the student had the fifth absence] ... there was a lot of confusion ... to fire the student or not ... and I had to organise the stuff ... this was the most intricate fact in the Practice Firm for me ... this involved not just myself but also the teacher and the school supervisor ... in a real enterprise the manager would have to decide ... [...] ... this was really complicated ... [because] the student had to sign a document assuming responsibility ... as I had never faced a situation like that [...] that was the moment that I noticed that I was in an enterprise ... simulated or not... [...] ... but I learned a lot from this ... [...] ... how to deal with people ... that was the most complicated fact ... (MTS-04).*

### **13.3 The Outcome Space – Version II**

After I had described the categories and subcategories of the outcome space and its subcategories, I perceived that the categories of description appeared to express two different kinds of relationship the students were having with the PFN model. On the one hand, students seemed to be describing their experiences in the PFN model by attributing presence or absence of meaning to their experience. I called this variation, a variation in the dimension of meaning of the PFN.

On the other hand, students seemed to be describing their experiences in the PFN model by attributing a sense of structure to the model: describing the model as similar to, or an imitation of, other learning environments and learning strategies, for instance, lectures, events or simulations. I called this variation a variation in the dimension of structure of the PFN. I decided to separate the two dimensions in the analysis.

With this rearrangement, I could see a hierarchal structure in the meaning dimension of the outcome space of students' experiences of the PFN, with students at one end of the spectrum experiencing the PFN as a completely 'pointless' experience; and at the opposite end, experiencing the PFN as an 'outstanding' experience because it allowed 'realistic' practices.

The second and the third categories in this dimension – the 'Way of Learning' category and the 'realistic' category – represent steps in the direction of a meaningful experience within the PFN model. They point to students' relationships with the PFN model which strongly contrast with those noted in relation to the 'pointless' category. In these two latter categories, students considered that the PFN model was worth doing, and that they had experienced the model as meaningful.

The beginning of a meaningful relationship with the model starts with a 'what can I get out of this?' attitude. Since the PFN is a compulsory discipline, those who wanted to get on in the course needed to construct their strategy accordingly. A 'what can I get out of this?' attitude was the first qualitative jump in the direction of a meaningful dimension of students' experience of the PFN model. It was experienced as qualitatively different moments in students' experience of the PFN, when they

suddenly realised that what seemed to be uninteresting and marking time could be turned into something interesting and motivating.

*In the beginning [of the Practice Firm] ... you are a little disoriented [because] ... you don't know ... that it is all fake ... I sell ... but don't sell ... you are really disoriented ... but as time goes by ... you see ... it's a fake but I can form a partnership ... do a sale advertisement to this partner ... then you begin to enjoy and do it spontaneously ... it turns out to be nice ... (MTS-07).*

As this interviewee reflected, 'as time goes by' students began to change their view of the learning environment. When this change was a shift from a 'pointless' experience to a meaningful experience, that is, when they perceived that they could learn or get something out of their experience, students experienced some 'a-ha' moments. I chose to categorise these students' descriptions of their experiences not by developmental stages but by the types of ways students were experiencing those moments. Therefore, I have called these learning moments 'ways of learning'.

On the other hand, the structural dimension of students' descriptions of their experiences was located separately to the meaning dimension. Students' descriptions demonstrated that students were not only having pointless or meaningful moments in the learning environment, but also that they noticed and recognised as important the different structures that the learning environment presented to them. Learning in these structures was influenced by a series of factors, such as the institutional focus, the dynamics of the situation, and in particular, the orientation of the teachers.

Structures were considered here not in the sense of physical objects, but mainly in the sense of varieties of activities that joined students, teachers and other resources around an objective. Thus, I found in students' descriptions their perception of what was happening in the PFN model that structurally bound students, teachers and resources together.

There were basically four types of structures in which students described the PFN model: as disciplines; as group work; as competition; and as simulation. It should be noted that I did not see in students' descriptions a hierarchy in this dimension. They appeared to have liked or disliked some kinds of activity they performed in the model, but they did not attribute explicitly or implicitly their contentment or discontentment to the specific structure of the activity.

With this in mind, another issue that is worth mentioning is that, although the meaning dimension and the structure dimension are put side-by-side in the table below, it does not mean that, for instance, the 'pointless' category in the meaning dimension is directly related to the 'discipline category' in the structure dimension. The ways in which the meaning dimension and the structure dimension relate is something that is not examined in this research; I believe that additional data would need to be collected or the available data would need to be revisited to answer this question. Therefore, a final structure of the outcome space of students' experience of the PFN could then be shown as in the table below.

**Table 10 – The Overall Structure of the Outcome Space –Version II**

Meaning		Structure	
Categories	Subcategories	Categories	Subcategories
1) Pointless experience	Contrary to Reality	4) Discipline experience	Discipline
	Duty		Project
	Routine		
2) Way of Learning experience	Learning by Instruction	5) Group Work experience	Social Pressure
	Learning by Example		Team Work
	Learning by Doing	6) Competitive experience	Competition between Individuals
	Learning by Error		Competition between Pfus
3) Realistic experience	Realistic	7) Simulated Experience	Simulation as Events
	Constrained by the Model		Simulation as Occasional Situations
	Realistic Outside the Model		

**Source: Research Data**

### 13.4 Conclusions of the Research

In this section, I present some conclusions that I was able to draw from the data analysis I have considered so far. In doing this, however, I do not aim to state general principles about teaching and learning in the PFN model. I cannot make generalisations from my conclusions for at least two reasons: firstly, because my methodological paradigm is concerned with ‘mapping’ qualitative differences in the way people experience phenomena, not in constructing predictive generalised relationships between variables in the phenomena; secondly, because, for example, I cannot say that the outcome space I constructed here will fit with that of students experiencing the model in another context. This means that students in France, in Austria, or elsewhere may present different ways of describing their experiences in the PFN model from those described by Brazilian students. Additional research would be necessary to establish if this is the case.

However, from my data in Brazil, and from a phenomenological perspective, I concluded that,

- a) Students experienced the PFN in qualitatively different ways;
- b) The range of variation could be arranged to show that students categorise their experiences in the PFN from a completely ‘pointless experience’ to a ‘realistic involvement’ with the PFN;

- c) Students devalued the PFN model when they perceived it as a 'pointless' experience, and students valued the PFN model when they perceived it as adding meaning to their experience;
- d) At a different level, students described the PFN model structurally, that is, arranged similar to academic disciplines, work groups, competition or simulations to deal with tasks or situations;
- e) Students may, or may not, learn when experiencing the model in a certain structure, depending on situational factors such as the meaning they give to the situation or the approach of teacher;
- f) Individual students' approaches to the PFN model were neither fixed nor unidirectional. Students described their experience as evolving, and the change occurred in both directions: either from 'pointless' to 'realistic' or from 'realistic' to 'pointless';
- g) Teachers' approaches to the model considerably affected students' experiences of the model.

It has been established for many years that students experience a learning experience in different ways; these ideas have been developed from many perspectives. One study confirming that students experience learning environments in different ways came out of Hodgson's (1980, 1997) research of students experiencing lectures.



Therefore, it could be anticipated that students experiencing the PFN model would have experienced it in different ways.

However, as students' perspectives of the PFN had never been studied before, it was surprising to see how complex the PFN appeared to students. The complexity of students' descriptions of the PFN demanded the construction of an outcome space in two dimensions: one dimension that I called the 'meaning dimension' and another that I called the 'structural dimension'. I think that this way of seeing the structure of the outcome space of a learning experience is a development from previous versions; a characteristic that I will discuss later, in the next chapter.

In the meaning dimension, students experienced the PFN model in a range that went from a 'pointless' category of experiencing the PFN to a 'realistic' category of experiencing the learning environment. Students devalued the model when they experienced it in the 'pointless' category. They expressed the idea that the model was not adding meaning to their experience, that the experience was a waste of time, or that the experience contradicted reality.

On the other hand, students valued the model when they experienced it in a meaningful way. The meaningful space of students' experiences was divided into two categories: one category that I called 'way of learning'; and another that I called the 'realistic' category. In both, however, students expressed the idea that the model was meaningful because they learned from it.

Alongside these two poles of understanding students' experiences of the PFN, I placed what I called the structural dimension of their experience. The structural dimension represents how students described their experience in terms of learning structures. Four structures were identified: school disciplines, group work, competitions and simulations. Students' descriptions demonstrated that the learning situations in these structures were not considered good or bad *per se*, that they appreciated the activity in the structure and that whether or not they learned from them depended on contextual and situational factors. One of these factors was the teacher's approach to the model, which I will explore in detail in the next chapter. The other main situational factor that influenced students' experiences of the model was that of the intrinsic deficiencies of the model perceived by the students. These deficiencies will also be explored in the next chapter.

### **13.5 Summary of Chapter Thirteen**

In this chapter, I outlined the overall structure of the outcome space of students' experiences of the PFN. To construct the outcome space, I took into consideration both Pitágoras and MTS students' descriptions of their experiences in the PFN.

I showed that within each category of description of the outcome space, there were variations that I called subcategories. I expanded on this variation within the categories of description with selected quotations from students. Finally, I perceived that the seven categories could be arranged in two dimensions: one dimension that I called 'the meaning dimension', and another that I called 'structural dimension'.

In the next section, I conclude this research with a discussion of how I interpreted and compared the analysis of data I made in this section with the literature. An initial consideration shows that students in this research showed a complex relationship with the PFN model as exemplified by the outcome space.

The discussion in the next section will explore this complexity further, both in relation to such concepts as education and learning and in relation to operational aspects of the model. I will also comment on some implications of this research for the theory and practice of the PFN model, and for the management of experiential learning environments in general.

## Section Five – Discussion and Implications

### The PFN and the Educational Context

Section Five is dedicated to the discussion of the findings of this research, and to the consideration of the implications of these findings. It is divided into two chapters. Chapter Fourteen discusses the seven qualitatively different ways in which students experienced the PFN, and how this related to the literature as presented in Section Two. The conclusions of the research inform and challenge the theory about management education and experiential learning in general, and the theory and practice of the PFN model in particular. The main consideration here is that the PFN model is a complex management education setting, with drawbacks that should be addressed to allow a meaningful experience, and with potentialities that could be realised better.

Chapter Fifteen presents a summary of the research, and the implications of the research findings for the theory and practice of management education, especially with respect to the PFN model and experiential learning environments. In this chapter, I argue that the findings of the research indicate that the theory of learning environments should be understood as a combination of structure and meaning. In an ideal combination, students recognise the structures as meaningful, and the structures support the development of students in their pursuit of meaning.

According to Perry (1998), Section Five must ensure that the research “does make a distinct contribution to the body of knowledge ... *and incorporates qualitative*

*findings about the research problem developed during the research”* (p. 81; emphasis in original).

## **14 Chapter Fourteen**

### **Discussion**

#### **14.1 Introduction**

In this chapter, I will discuss the analysis of the data and the findings of the research in relation to theoretical assumptions in the literature about the concept of the PFN model specifically, and about the concepts of learning, learning environments and management education in general. The purpose of this discussion is twofold. I intend to use the discussion firstly to address how the analytic findings and the conclusive inferences of the research either fit or challenge the theoretical assumptions about the PFN model, management education and experiential learning environments; and secondly, to look at the categories of description and the research conclusions outlined in the last chapter in terms of what these categories and the conclusions drawn from within them may inform practitioners and, more importantly, designers of the model regarding the drawbacks and potentialities of the model, and ways in which they could improve it. However, these two aims; the theoretical and the practical discussion of the model; are not explicitly separated in the text.

Additionally, it should be noted that the methodological approach used to analyse the PFN model in this research differs from previous works on the concept of the PFN (e.g. Tramm, 2002; Gramlinger, 2004; Trummer, 2002, 2004), which concentrated on looking at the model from a researcher's point of view, that is, using a first-order perspective. On the contrary, my work is inductive, in a second-order perspective, and

therefore involves a change on the focus of description from the researcher's voice to the researched voices. Thus, the outcomes of the work and the conclusions I reached are based on descriptions given by students who experienced the model in a given space and time. The claims I make here are supported by these descriptions.

Another important factor to address at the outset of this chapter, in relation to the discussion ahead, is the context of the research. Although the PFN concept is used in different countries around the world, the discussion within in this thesis concentrates particularly on the relationship of students with the model in the context in which the research was specifically conducted, that is, in two educational institutions in the Brazilian educational system. It is important to note this because specific countries and settings may lead to specific uses of the model, as outlined in Chapter Two. Despite this, I expect that the majority of issues discussed in this chapter should be relevant if applied to the concept of the PFN worldwide.

The chapter begins with a discussion of the structure of the outcome space, and an interpretation of its elaboration. I then discuss the findings of the research in relation to previous works on the PFN concept. After this, I comment on characteristics and deficiencies of the model according to the research data, and articulate some ideas of how the model could be reconsidered, which should improve it. Finally, I discuss how the concept of the PFN can be related to concepts and models of management education.

As this is the first study of the PFN model that takes a phenomenographic perspective, the categories of description presented in the study are completely new. As a result of

this, there is not a similar study to which I can compare the set of categories. The way in which the outcome space is presented in this research is also unique. Nevertheless, the categories and the outcome space as presented in this research will be compared to some other phenomenographic studies that consider students' perceptions of their learning environments, and their similarities and differences will be discussed.

Those who are not familiar with some terms I use in this chapter – for example, the themes related to students' descriptions or the categories and subcategories of description – should see Chapter Ten for a list and characteristics of themes; Chapters Eleven and Twelve for the characteristics of each category of description; and Chapter Thirteen for the description of the categories, subcategories and the structure of the outcome space. One should also remember that the outcome space was presented in two versions: version I as a list of categories of descriptions, and version II arranged in two dimensions: meaning and structure.

## **14.2 The Characteristics of the Outcome Space of Students' Experience of the PFN Model.**

In this study, an experiential model for management learning, the PFN model, was studied, and a phenomenographic analysis from students' description of the model was carried out. The analysis of the data showed that seven categories of students' experiences of the model could be constructed. The seven categories of description of the PFN constructed from students' accounts of their experience were considered the first main outcome of this research. They are important because they showed a new and more complete understanding of the PFN, and because the categories showed that



students have a complex array of relationships with the model. The constructed categories of experiencing the PFN showed that students described the PFN as a

- 1) Pointless experience;
- 2) Discipline experience;
- 3) Group work experience;
- 4) Competitive experience;
- 5) Simulated experience;
- 6) Way of Learning experience;
- 7) Realistic experience.

After the categories of description above had been constructed, each one was scrutinised and sub-categories were inferred from within them. I then reorganised the categories and sub-categories in an outcome space, which I set out as a hierarchical form of understanding the PFN. I called this form of structuring the outcome space version I. This form of structuring the outcome space in a phenomenographic research is traditional and originates from the studies of Marton and colleagues in the 1970s (Dall'Alba, 1996). For example, in classic phenomenographic studies, learning is categorised in six ways, as follows: a) learning as increasing one's knowledge; b) learning as memorising and reproducing; c) learning as applying; d) learning as understanding; e) learning as seeing something in a different way; and f) learning as changing as a person (Marton and Booth, 1997).

**Table 11 – The Overall Structure of the Outcome Space –Version I**

Categories	Subcategories
1) Pointless experience	Contrary to Reality
	Duty
	Routine
2) Discipline experience	Discipline
	Project
3) Group Work experience	Social Pressure
	Team Work
4) Competitive experience	Competition between Individuals
	Competition between Pfus
5) Simulated Experience	Simulation as Planned Events
	Simulation as Occasional Situations
6) Way of Learning experience	Learning by Instruction
	Learning by Example
	Learning by Doing
	Learning by Error
7) Realistic experience	Realistic Constrained by the Model
	Realistic Outside the Model

**Source: Research Data**

However, students' experience of the PFN model, as shown in the categories and subcategories in table 11, did not exactly seem to present a hierarchical structure. The analysis of students' descriptions of the model did not support, for instance, that a

‘group work experience’ was more or less complex than a ‘competitive experience’, and it seemed confused to arrange hierarchically a ‘discipline experience’ category and a ‘realistic’ experience category.

I then perceived that the categories and sub categories of the outcome space, as it was presented in version I, showed two different kinds of description, which I characterised as being two logical dimensions of variation in students’ experience, and that those two dimensions encapsulated both characteristics of a phenomenographic outcome space: structure and hierarchy. I called these two dimensions ‘meaning’ and ‘structure’. I then rearranged the outcome space to show these two dimensions: I called this new version of structuring the outcome space version II (see page 297). The following paragraphs of this chapter discuss these two dimensions of the outcome space in my research, in relation to the literature available.

This bi-dimensional structure of the outcome space facilitated the understanding of students’ experiences of the model. Bi-dimensional structures of the outcome space have already been used in recent phenomenographic works, for example, in Åkerlind’s (2003b) research, in which the author searched in the data for categories of description and “dimensions of variation that could be both systematically grouped into *logically* related themes and found *empirically* to run through ... all groupings of transcripts reflecting the categories of description” (p. 105; emphasis in original).

Åkerlind then constructed a bi-dimensional outcome space with *categories of description* describing key aspects of qualitatively different ways of experiencing the phenomenon in question, and *dimensions of variation*, that is, “common themes of

expanding awareness running through the categories of description” (Åkerlind, 2002b). In my research however, in contrast to that of Åkerlind, the two dimensions of categories of description were not fused to perform as they would in a matrix. As I mentioned earlier, both dimensions run separately, even though they are interrelated by the uniqueness of students’ experiences.

The configuration of the structure of the outcome space as it was presented in Chapter Thirteen (version II) followed a series of ‘conversations’ with the data. The final ‘presentation’ is a stable model in which the outcome space was configured in two dimensions: meaning and structure. This result is hardly surprising, as phenomenography is intended to deal with the referential (meaning) and structural dimensions of human experience (Marton and Booth, 1997). Nevertheless, this form of presenting results in phenomenographic studies is not explicitly used, and should be inferred from the descriptions of the categories.

For example, as stated before, the six categories of experiencing learning as shown in classic phenomenographic studies may be seen as divided in two broad categories: a) learning as primarily reproducing and b) learning as primarily seeking meaning (Marton and Booth, 1997). As the authors state, those who think of learning as primarily reproducing are “limited totally to the tasks of learning imposed by a study situation” (Marton and Booth, 1997: 38). They, in fact, respond to the *structure* of the activity. On the contrary, those who seek *meaning* in the learning process go beyond the structure of the activity.

I claim that the bi-dimensional way of seeing results in phenomenographic studies is important, and that it would be useful to consider an explicit presentation of these two dimensions in future phenomenographic research. The literature has not examined the relationship between students and learning whilst taking these two dimensions into consideration. The literature has approached the relationship between students and learning in different traditions: deep *vs.* surface (Marton and Säljö, 1997); academic *vs.* non academic (Biggs, 2003); and alienated *vs.* engaged (Mann, 2001), for instance.

In addition, from a developmental perspective, viewing the outcome space organised into meaning elements and structural elements would be fruitful. In the learning experience, for instance, it would call attention to the premise that structures of the learning environment, and also the context wherein these structures lie, are important if one is to understand the meaning that students (and also teachers) attribute to their experiences. This orientation would also consider those characteristics that Parlett (1977) called 'learning milieu', i.e. the background that is educationally significant but largely disregarded, such as the departmental rites and institutional procedures, for example.

Before turning to the discussion of the relationship between students and their learning environment in terms of meaning and of structure, then demonstrating the dynamic interplay between these two dimensions in my research, it is important to comment on how these two dimensions were inferred in my research, and how they interrelate in the structure of the outcome space.

The meaning dimension, for example, was constructed by identifying two opposing views on the nature of descriptions given by students in the model, with respect to the meaning of their experiences: at one extreme, I perceived students who described their experiences of the PFN as a 'pointless' experience, with a sense of disengagement and disappointment with the model. This set of descriptions made it very clear that the PFN model was at times seen as a useless experience; the students were participating in the activity because it was mandatory.

At the other extreme, I perceived that students described their experience in the PFN model with a sense of meaning; they felt engaged and satisfied by experiencing and performing the tasks of the PFN. The model was perceived by these students not only as a space for a learning experience, but also as a situation that went beyond the constraints of learning environments; a situation that they mentioned as 'realistic' in its own right and that I categorised in two ways: realistic 'constrained by the learning environment' and realistic without the constraints of the learning environment.

Between these two extremes, I also perceived an intersection in which students described their experience as having happened in a way that was meaningful, although they were not enthusiastic about the learning environment itself. I labelled this intersection with the term 'a way of learning' category. In this category, students experienced learning in the model in a varied way, namely, 'learning by instruction', 'learning by example', 'learning by committing mistakes', and others.

When I isolated these meaningful forms of students' descriptions of the PFN from the other categories, I perceived that students were also describing the PFN model in a set

of ways which characterised structural ways of experiencing the learning environment. I characterised these in a structural dimension of the PFN model, which referred to the ways by which they had experienced the activities in the model in relation to other people and things. Students perceived that these forms varied. The variation of their experience could be categorised in four types: a) as similar to the other school disciplines, such as Maths and Science, for example; b) as group work; c) as competitive activities; and d) as simulated experiences.

In short, they described what they had experienced as a combination of how they had experienced it and the meaning that these experiences had had to them. Thus, their experience had a referential aspect (meaning) and a structural aspect (Marton and Booth, 1997). Students experienced the PFN model by gaining a sense of the model in terms of meaning and structure, and “the two aspects, meaning and structure, [were] dialectically intertwined and occur[ed] simultaneously” (Marton and Booth, 1997: 87).

I believe that this type of construction of the outcome space of the PFN model is an important advancement because the PFN model constitutes what has been labelled recently in the literature as ‘complex learning-teaching arrangements’ (Ertl and Sloane, 2004: 27). Although all learning environments may be considered complex, some learning environments such as, for example, lectures and case studies, contrive the level of complexity by delimiting in some ways the content which will be dealt with. On the other hand, other types of complex learning-teaching environments, such as the PFN model, are arrangements that “allow both the simulation of experiences that students might have in the real world and also the creation of compelling

experiences that cannot normally be experienced directly” (Winn, 2002: 331).

Previous research in the phenomenographic tradition deals with more stable and organised forms of learning environments. See, for example, Hodgson’s (1980, 1997) research about students’ perception of lectures; Lucas’ (2001) research about students’ approach to learning in introductory accounting or Ashwin’s (2006) research about students’ approach to tutorials.

Furthermore, students’ descriptions of the PFN model pointed out the need to understand the students’ engagement with learning environments not only in terms of either deep x surface (Marton and Saljo, 1997), or engagement x alienation (Mann, 2001), but also in terms of different levels of engagement. For example, students’ descriptions of the PFN model as a ‘pointless experience’ can not be compared to students’ alienation as described by Mann (2001).

In Mann’s words, alienation is “the experience of being isolated from a group or an activity to which one should belong or in which one should be involved” (Mann, 2001: 8). Nevertheless, the ‘pointless experience’ category in the PFN model, as explained before, does not represent a complete disengagement from the model: rather it indicates at least a degree of engagement. This was captured in the students’ descriptions in three different ways: sometimes as ‘duty’; other times as ‘routine’; and others as ‘contrary to reality’. What this category and its subcategories mean to the analysis of learning environments and to the development of the concept of the PFN model will be discussed later in this chapter. The argument here is that the structure of an outcome space should be constructed in a way that stresses the meaning that the



subjects of the research attribute to the phenomenon of study, and the structures that underlie this meaning.

Another interesting point in the discussion is the relationship between the structure of the outcome space and individual experiences in the PFN. As the data showed, the ways in which individual students experienced the model were not stable: most of the students experienced the model in more than one category. Some of them mentioned having experienced the PFN model in contrasting ways; they began experiencing the model in a 'pointless' way but changed their perception of the model later to a 'realistic experience'. Conversely, other students began by experiencing the model with enthusiasm and engagement and finished by regarding the model with some disillusionment.

The first mode of experiencing the PFN model can be exemplified by the description of Pitágoras student (Pita-01) (see page 261), who related that in the beginning he doubted that the learning environment could be as realistic as he felt it was at the end. The reverse mode of experiencing the PFN model is exemplified by an MTS student (MTS-09), who described his enthusiasm in the beginning and his disappointment at the end of the practice in the PFN. Expressed another way, the categories of analysis I constructed from the data are independent of individual students experiencing them, although of course the categories could not exist unless they were actually experienced by the students. In summary, as is expected in phenomenographic research, the categories express 'ways of experiencing' a phenomenon, rather than individual experiences of the phenomenon.

Another interesting characteristic of the set of categories I constructed from the data is revealed by the theme I called ‘the complexity of the model’ (see page 246). One student’s description in that theme encapsulates some of the categories that will appear later in my analysis of the outcome space of students’ experiences of the PFN. The student first described the PFN as a ‘discipline experience’ that was part of the Faculty Pitágoras curriculum. Secondly, the PFN was seen as a ‘virtual enterprise or a simulation’; a model where students could practice according to certain managerial academic concepts such as ‘mission’, ‘vision’, ‘cost price’ and ‘product’. Thirdly, he mentioned the PFN as a ‘realistic experience’, where he could make contacts and negotiate with real enterprises (Business Partners) that would supply his group, the Pfu, with goods and information. Finally, in the citation, the PFN concept was considered as a ‘group work’ experience in which each participant was working in a given aspect of the business, such as ‘logistics’, ‘human resources’ or ‘marketing’.

This ‘fluid experience’ shows that students in the PFN model may have applied strategic approaches (Biggs, 1987) to deal with situations in the model. Thus, students described the PFN as a ‘pointless’ or a ‘realistic’ experience, but now and then experienced the model in another qualitatively different way, depending on the intentions they had in the learning situation or on the nature of tasks they were required to perform. Again, the argument here is that the categories I constructed from the data do not represent individual experiences, but ‘ways of experiencing’ extracted from students’ experiences.

These characteristics of the set of students’ descriptions of the PFN model made it possible to construct a final outcome space of students’ experiences as a combination

of categories in two dimensions: a meaning dimension and a structure dimension. The outcome space showing this combination is as in the table below:

**Table 12 – The Overall Structure of the Outcome Space –Version II**

Meaning		Structure	
Categories	Subcategories	Categories	Subcategories
1) Pointless experience	Contrary to Reality	4) Discipline experience	Discipline
	Duty		Project
	Routine		
2) Way of Learning experience	Learning by Instruction	5) Group Work experience	Social Pressure
	Learning by Example		Team Work
	Learning by Doing	6) Competitive experience	Competition between Individuals
	Learning by Error		Competition between Pfus
3) Realistic experience	Realistic	7) Simulated Experience	Simulation as Events
	Constrained by the Model		Simulation as Occasional Situations
	Realistic Outside the Model		

**Source: Research Data**

As I have an interest in developing the PFN model I will now discuss how the categories of description, as shown above, may inform the way students perceived the model, and also how these perceptions may contribute to a critique of the model. The aim of this is that designers of and participants in the model, especially teachers, may improve the model by understanding how students perceive it. I will do this by showing how students seem to learn in the model, and the many inconsistencies that students' descriptions reveal about the model.

### **14.3 Learning in the PFN Model**

In this section, I will explore how students learn in the model and how the categories I constructed from students' descriptions of their experience in the PFN may inform designers of both the potentialities and the drawbacks of the model. Bereiter and Scardamalia (2003) have stated that we do not have schools that prepare students to be proficient beyond basic skills. They add that the only promising way is 'immersion' or the settling of students in places where the skills to function in knowledge-base economy and innovation-driven organisations are needed. In a sense, they agree with Volkmann and De Cock (2007), who argue that "no matter how 'practical' teaching at a business school is designed to be, it cannot match the 'practicality' and 'groundedness' of the craft teaching [of arts, for example]" (p. 396).

Thus Bereiter and Scardamalia propose 'environmental immersion'. However, environmental immersion may suggest little or no control of pedagogical aims. This is what happens, for example, when people immerse themselves in a culture in order to learn a target language. In the process, learners acquire what Selinker and

Lakshamanan called 'interlanguage'. According to Wikipedia (<http://en.wikipedia.org/wiki/Interlanguage/>) "an interlanguage is an emerging linguistic system that has been developed by a learner of a second language (or L2) who has not become fully proficient yet but is only approximating the target language". In the process the learner preserves some features of their first language (or L1) and creates innovations.

Nevertheless, this process may present disadvantages also. One disadvantage is the possibility that learners may learn functional strategies and behaviours to deal with situations, and thus stop feeling the need to improve behaviour. In interlanguage studies this student misinterpretation of learning is called 'fossilisation' (Selinker and Lakshamanan, 1992: cited in [http://en.wikipedia.org/wiki/Interlanguage\\_fossilisation/](http://en.wikipedia.org/wiki/Interlanguage_fossilisation/)). Fossilisation is a misinterpretation of the educational process by the learner, because it involves stopping the educational process at such a point that it only serves functional purposes. Education has other purposes, as we have seen in the literature review in Chapter Four. A learning environment may serve these other purposes as well.

Although Wenger (1998) argues that learning cannot be designed because it is an individual endeavour, learning environments can, insofar as they are artificial objects (Simon, 1996). The design of artificial objects, including learning environments, influences, but does not determine, the way that knowledge is experienced, transformed and constructed in a learning situation. This relationship between a learning situation and a learning context, taking into consideration the learning environment as one of the elements of the learning context, is well-documented in the social constructivist literature and that of situated learning (Lave and Wenger, 1991;

Brown *et al.*, 1989; Wilson, 1995; Fox, 1997b). What I propose to do next is to discuss how the relationship between learning and the learning environment is applied to the case of the PFN model viewed from a student's perspective, as is the aim of my research.

The phenomenographic analysis of descriptions given by students of their experience in the PFN model highlights the importance of researching specific subjects to understand their actuality. Hounsell *et al.* (2005) have called this characteristic 'Ways of Thinking and Practising (WTP) in a subject'. The results of Hounsell *et al.*'s research reinforce Goodyear's argument that we need "a clear understanding of the actuality of students' work" (Goodyear, 1997: 1). Only based on this understanding, rather than trusting in a "romanticised or prescriptive model" of what designers think students should be doing (Goodyear, 1997), is an effective improvement of the design and operation of a specific learning environment possible.

As I have already described, the outcome space constructed from the data showed that the PFN model could be seen as experienced by students in two dimensions: meaning and structure. On the one hand, in terms of meaning, the research data showed that students' relationships with the PFN model ranged from a 'pointless' category to a 'realistic' category. On the other hand, in terms of structure, the research data demonstrated that the outcome space could be constructed based on students' descriptions of the PFN as if they were experiencing the model according to types of learning events that were occurring. The categories constructed with these types of learning events were: a discipline experience; a group work experience; a competitive experience; and a simulated experience.

In relation to the literature available about the PFN model, taken from the meaning dimension perspective, students' descriptions of the PFN model do not support Tramm's (cited in Gramlinger, 2004) statement that the PFN model provides a *general* 'goal of learning'. Students' descriptions of the PFN in my research demonstrated a more complex way of seeing the model than simply seeing the model as an environment used to general purposes of learning as defined by Tramm, that is, the PFN as 'a place of concentration and practice', a place for 'training for practice', and a place for 'genuine learning'. The difference between Tramm's classification and the categories in my research can be attributed to two reasons. Firstly, Tramm's classification implies that every student is, or should be, gaining a meaningful learning experience in the PFN. This is not supported by my research. Secondly, Tramm's analysis is from the researcher's point of view, i.e. what I have called 'from a first-order perspective'. My research is based on students' descriptions of the model, something that is called in the literature 'a second-order perspective'.

The general 'goals of learning' of the PFN model defined by Tramm may be considered to be institutional perspectives. They are based on the belief that the purposes of learning environments correspond to those declared by their designers, as designers would take into consideration the three areas of competence for the implementation of effective instruction: educational foundations, methodology, and process (Dunnagan and Christensen, 2000). However, the data from the research showed that, from a student perspective, the PFN model is more complex than Tramm's 'goals of learning'. This may be demonstrated in two senses: firstly, by the large number of categories of experiencing the PFN model that could be constructed

from the data; and secondly, by the need to create two dimensions to accommodate the amalgamated categories.

Moreover, from a meaning perspective and according to the data, there was no doubt that students devalued the model when they experienced it in level 1 – a ‘pointless’ category – and thus this kind of experience should be avoided in the model. Students only participated in the model when experiencing the model in this category because they were obliged to. Conversely, students seemed engaged and valued the experience when these experiences promoted some kind of realism, as expressed in level 7 – a realistic category – of experiencing the model. However, apart from level 1, the preference for other levels of experiencing the PFN model seemed to depend on contextual factors. These factors included the experience and support of the teacher, and the type of learning that students perceived was being provided by their participation in the situation. These factors will be analysed further in subsequent paragraphs.

On the other hand, some categories of students’ descriptions of the PFN model – for instance, the PFN as a way of learning experience – support Gramlinger’s (2004) comments that the PFN model provides students with the opportunity to train “their economic, business, technical and electronic data processing (EDP) knowledge” (p. 81). Student descriptions in many categories also support Gramlinger’s (2004) claims that the PFN model “... develop[s] and extend[s] [students’] social skills, organisational abilities and attitude towards work” (p. 81). Here are some examples of how this is accomplished, considering first how a student described the way in which involvement with the PFN helped him to learn technical skills:



*[In the Practice Firm] ... I was interested in learning how the finance sector works ... as my degree was in the finance area ... so I was really interested in the finance sector ... and I really learned a lot ... (Pita-02).*

Contextually, this student is describing his experience in the PFN model as worthwhile because it promoted what he expected from the learning experience. He expected and achieved technical competence in finance by doing activities that are relevant to a finance sector or, according to Greeno *et al.* (1993), by interacting with people and things in a situation that improved his technical performance. This aspect of students' experiences in the PFN model stresses the capacity of the model for providing 'knowing how' knowledge (Ryle, 1949).

With respect to social skills, students described the PFN model as useful because, as pointed out by this student,

*In the Practice Firm I came to learn that ... you have different opinions ... and you are not always right ... your opinion won't be the best all the time ... so you have to listen to your colleagues ... and try to fit things to the majority ... (MTS-07).*

This comment illustrates how the group characteristic of the PFN model – category 5, the PFN as a group experience – allowed students to reflect on their social skills and develop or confirm concepts that are essential to our western society as, for example, the notion of democracy as exemplified in the citation above by the student's reference to the necessity of 'fitting things to the majority'.

The joint development of both technical and social skills is a characteristic of action-oriented learning. The combination of both features is essential in professional education. However it is something that is not highlighted in traditional education. Traditional education over-emphasises “systems of thought, concepts ... and ... intellectual structures” (Goodlad, 1995: 103).

In an opposite view to that of traditional education, action-oriented learning emphasises practice. Emphasis on practice is not new to management education. In 1974, for example, Argyris and Schön had already set out guidelines for effective learning. According to the authors, effective learning can only be achieved based on personally caused experience, usually produced by expressed and examined dilemmas. They add that the instructors should have more faith in the participants than they may have in themselves, and should help them to express spontaneity. The instructor has also to recognise the limits of participants’ learning methodologies, and the need to integrate feelings and ideas within the notion of rationality.

Tramm (2002) states also that action-oriented learning in the PFN model involves making learning realistic, but that learning can only be realistic if “the learning objects are really analogous to the crucial features of the corresponding reality” (p. 9). This view of ‘learning objects’ that the model should have is problematic because it asserts an outside reality that the PFN should reproduce. Nevertheless, students experiencing the PFN in category 1 – as a Discipline experience – seem to agree with this view, that is, that there is a corresponding reality that the PFN should reflect.

In the sense of a discipline, students perceived the PFN model, and especially the teachers within it, as a means by which knowledge about how to manage an enterprise could be transmitted to students. According to this view, knowledge would be contained in books or in teachers' heads, so what was needed was to capture this knowledge to acquire managerial competence. The reality of managing could be defined by a series of management concepts that students were supposed to take on board. Consider, for example, the quotation below

*... our teacher explained to us what was a business environment, macro environment, micro environment, market, client, supplier ... and he asked us to make an environmental analysis of our company ... (MTS-09).*

According to this view, teachers and their approaches to the model had a major influence on students' ways of perceiving the PFN, because teachers were perceived to be those who held the relevant concepts of management. However, there are fundamental problems with this view. One problem is the assumption that issues of authority, control and power of staff (trainers and tutors) over learners are unimportant (Cunningham and Dawes, 1997). As many of the categories of description of my research indicate, the teacher is a major element in how students perceive the model. However, the role of the teacher is completely different in each category, both in terms of meaning and in terms of function.

Another problem in the PFN model is the destruction of "structures of meaning and context" (Tramm, 2002: 14) made by didactic reductions and generalisations within

the model. This problem may lead to a series of inconsistencies in the model. I will shortly discuss how these were perceived by students, and will return to the role of the teacher in the PFN model later.

### **14.3.1 Inconsistencies of the PFN Model**

Didactic reductions and generalisations made within the PFN model lead to what students perceived as intrinsic inconsistencies of the model. Inconsistencies of the model refer to those things that students perceived as false, incomplete or contrary to reality in the concept and operation of the model. Some students' descriptions of the PFN highlighted these intrinsic inconsistencies. Other students' descriptions also confirmed Tramm's (2002) requirement of the necessity of a match between the 'learning objects' and 'the real experience of students' daily life' in action-oriented learning. I mentioned above that I consider this match problematic. I will now discuss the inconsistencies I found in students' descriptions, and will outline how they relate to my categories of description of the PFN model.

The main conceptual inconsistency that I will explore here refers to the idea that the model did not reflect properly the 'economic world' as it was supposed to do. From students' perspective, in order to make sense pedagogically, the model would have to imitate the 'economic world' outside itself in a more realistic way, and would have to develop a more realistic mirror of the economic market.

There are many examples of this that could be cited. For instance, in category 1 – Pointless experience – a student mentioned that the model was false because "the market in the real world is completely different" (MTS-06). She mentioned that

people in the real world are working to make money, so they are preoccupied with every movement they make, every penny they have. This is not the same in the PFN. People in the PFN are students; they behave like students. They are classmates, not consumers, sellers or employees. Moreover, in the PFN, one can not apply the business concepts, for example marketing concepts, as learned in class because students do not behave as consumers.

I believe that the realism of the model could be improved by changing it so that it approximates more closely to category 3 that I called 'realistic' in the research. This change could be made basically in two ways: either by liberating the model to relate to the outside world, approximating the model to the characteristics of the sub-category called 'realistic outside the model'; or by improving the consistency of the variables in the model, approximating the model to the characteristics of the sub-category, called in this research, 'realistic constrained by the model'.

Liberating the PFN model to relate to the outside world would allow the participants of the model to engage and interact with aspects of the real world that would be relevant to accomplish real demands. As stated by Wenger (1998), insofar as students define the enterprises and engage in their pursuit together, they have to negotiate their own enterprise within the learning environment, evolve and dissolve the community according to their own learning and needs, and shape their own boundaries. In Wenger's understanding, this is how people learn.

After approximating the model to this realistic category, an immediate consequence would be that students would have a more consistent way of performing the internal

activities (raw material purchasing, payments, personnel hiring, accountancy, etc.). In this way, the PFN would really provide “a learning place in which real-life business work under the circumstances of the market in a ‘training economy’” (Trummer, 2002: 50) would take place.

Another way of improving the realism of the model is by improving the consistency of the variables and approximating the model to the sub category I called ‘realistic constrained by the model’, the PFN could more appropriately be called a ‘model to learn’, in which simplification, reduction and minimisation of the reality of a company (Gramlinger, 2004) could be aims. As mentioned by Gramlinger, in a model one can emphasise certain aspects of reality, or even complement and add elements or situations that do not exist in the reality.

Additionally, when the model is categorised as ‘realistic constrained by the model’, the construction of a consistent framework of variables would allow students to focus on the “the links between strategy, structure and actions” (Trummer, 2002: 50).

Trummer suggests that this does not happen because students in schools are generally given very strict organisational structures which prevent them from having “opportunities to deal with the strategic orientation of the Practice Firm” (p. 50).

Trummer acknowledges that one of the things that prevent students from having a more consistent approach to the PFN is the artificial nature of the PFN. Its artificial characteristics are particularly evident insofar as the PFN is a model where “no real goods, services and money are exchanged” (Trummer, 2002: 50). This lack of reference to things that are important in reality seriously undermines the possibility of students having a meaningful relationship with the model. In my research, this is

expressed in students' descriptions in several ways. It shall be seen that there are 'positive' and 'negative' forms of expressing discontentment with this feature of the model.

Positive examples of students expressing discontentment with the artificiality of the model occur when students engage with the model although they may perceive deficiencies in it. One example is, as already mentioned, when students perceived the 'realistic' way of experiencing the PFN model as pedagogically meaningful, even though these experiences may not have been intrinsically gratifying, or may not have been completed. This is the case of an MTS student who had her Pfu's plan of offering an adventure trip refused by the School director. Nevertheless she valued the incident because this was "the part [in the Practice Firm] that really worked"<sup>1</sup> (MTS-06).

Negative forms of students' discontentment with the artificiality of the model are expressed when students do not engage with the model, and undermine it by performing the tasks in the model without commitment. This behaviour was mainly classified in category 1 – a pointless experience – when students perceived the learning environment either as 'contrary to reality', as 'duty' or as 'routine'.

Even when students described their experiences in the subcategory 'realistic constrained by the model' – in category 3 – they saw a strong link between the experience they were having in the model and the learning benefits they achieved. In this case, the constraints the model imposed did not prevent them from having

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<sup>1</sup> See Chapter Ten, incident 12: 'Creating Real Products'.

meaningful experiences. They interpreted their experiences as meaningful *because* they were experiencing the model; *because* of the model. Similarly, Tramm (2002) talks about learning *within* the model in the sense that students learn by *performing in* the various activities that they are required to carry out in the model. Moreover, the ‘constrained by the model’ sub-category in my research indicates, as expressed by Tramm, that it is possible to ‘experience reality’ and learn from it within a simulated environment.

For example, MTS students had rarely had experience of work, but their experience in the PFN model gave them a taste of what was like to be in an enterprise. They then took their common-sense view of what an enterprise would be like, and compared it with the experience they were having. Take, for example, the case of this interviewee as she faced a ‘real’ conflict in the PFN. The conflict reported here refers to one in which a student (employee) of a certain Pfu used to do all the work and her fellow students complained about that (see page 238). The student then describes that in the meeting

*... we saw that [the Practice Firm] was a real enterprise ... even being a fictitious one ... we saw the problems ... until then ... when we arrived at the Practice Firm you thought that ... this [the Practice Firm] is just play ... nevertheless you see that there are problems ... it is really an enterprise ... then you think ... it's cool ... here am I ... [taking part] ... in this issue ... (MTS-12).*



Another sign of a qualitative transformation in the students' perceptions of the PFN model is shown when students expressed their experience in category 7, which I called a 'simulated experience'. Here students begin to express that the simulated character of the experience is more prominent than the experience itself, such as in this example,

*... it was interesting [to see] how everyone ... everyone in his sector ... in his department ... behaved as if it was a real sale ... (Pita-09).*

I think that the defining words in this description of experiencing the PFN are contained in the expression 'as if'. While in the description of the former student the changing moment in the nature of the experience of the PFN operates in the whole situation, in the latter student's description, the transformation occurs only in the mind of the student.

This double 'nature' of perception – the model as real and the model as a learning model – is intriguing. It goes beyond Tramm's (2002) interpretation of the PFN model as a learning environment in which one can learn 'within the model' and 'by the model'. Tramm states that from the students' point of view "the Practice Firm is a concrete learning environment, in which they can act and learn. And at the same time, it is – as a model of an enterprise – a complex and dynamic learning object which something should be learned about" (p.10).

The problem with Tramm's view of the PFN as a 'concrete learning environment' (Tramm, 2002) or with Gramlinger's view of the PFN as a model (Gramlinger, 2004),

something that pre-exists before actual students enter it, is the assumption that teachers' or designers' preconceptions of the learning environment are the basic components of the design. This view does not take into account that there are at least two different steps of modelling when dealing with didactic models: firstly, 'modelling reality', that is, considering which elements of the reality are really important to incorporate in the model; and secondly, 'modelling the model of reality under a didactic perspective' that is, the consideration of pedagogical aims and the rearrangement of the model to achieve these aims (Achtenhagen, 2001). One of these aims is the developmental character of students' perceptions of reality.

Forgetting the developmental character of students' perceptions of reality may lead to what Cell (1984) states as 'dysfunctional learning'. Dysfunctional learning is defined by Cell as learning "to adopt the behaviour and beliefs expected of us by others" (p. 19), that is, indoctrination. This is the case in organisational learning according to Cell because, in organisations, "only after those who are responsible for us believe that we see things a certain way do they leave us alone to act independently"<sup>1</sup> (Cell, 1984: 161). In this sense, this is the case also of educational situations in which teachers are those responsible for directing and caring about students' beliefs and behaviour. This indoctrination may have undesirable consequences for the construction of the student identity as a person and as a professional: it may be a dysfunctional learning experience. As Cell states, learning to be a person is to have the power to make a significant difference, personally and interpersonally.

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<sup>1</sup> This citation, according to Cell, is from *The Organization Trap and How to Get Out of It* (NY: Basic Books, 1974, pp. 3-4)

The concept of dysfunctional learning may be related to Mann's (2001) discussion of alienation and the student as an 'outsider'; "a stranger in a foreign land" (p. 11). Mann suggests that most students who cross the border into the academic world feel as if they are crossing the borders of a new country alone. They do not know the local language and customs, therefore they feel disoriented. In this strange land, they are potentially weak and forced to play according to the rules of those in power. This academic world seems to be "ordered, regulated, reflective and rational ... [and thus a place where] ... there is no room for creativity, disturbance or personal significance" (p. 9). Designers of the PFN should pay attention to the possibility of dysfunctional learning in the model and to the desires of 'outsiders'.

Another key problem when considering the relationship between the PFN as a model and an 'outside reality' is students' perception that the market to be supplied by a Pfu is an abstraction. Consequently, the Pfu does not actually need to produce the product that it sells. Although there are real customers (teachers, other students and people around the model in general), there are no real needs as would be the case in a real market. Thus, in the PFN model, the market concept is not realised, that is, it is not made real by the acts of their agents.

For example, when students described a 'starting up' incident (see pages 242-243), they were usually confused about what kind of product or service they could really offer in the PFN. Their choices were sometimes guided more by opportunistic reasons than by entrepreneurial ones. As one student described, the group was confused because the choice they had made was unfeasible and they had very little time to complete the task. They finally decided to start a certain kind of company because

they had someone in the group who was related to people working within that kind of company. Although the activity in the model allowed a ‘realistic experience’ – category 3 – students were forced to adopt a strategic behaviour because they were running out of time. In this sense, they considered the activity more a pedagogical task to be finished than a learning experience.

Another conceptual problem of the model is the difficult question of whether learning environments should be places in which unpleasant situations of real life should be reproduced. This question can be related to what Snell (1992) called “hard knocks” in experiential learning, or “unpleasant situations” which happen in every organisation. According to Snell, although “human beings are [not] psychologically unable to learn experientially without pain” (p. 12), hard knocks are inevitable in learning because they are inevitable in life.

In the PFN model some students seemed to accept learning by ‘hard knocks’ and others not. Those who accepted learning by “hard knocks” did so as long as they felt the situation was providing the right experiences. One student described that the real incident that she faced in the PFN model “was very complicated” in the sense that it presented “many problems” and the necessity of making difficult decisions related to peer students but that, in the end, the incident made her “learn a lot”<sup>1</sup> (MTS-04). Nevertheless, another student mentioned that the complicated situation of assessing colleagues in the PFN was unacceptable and that this was not a student’s role (Pita-06).

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<sup>1</sup> See Chapter Thirteen, sub-category ‘Realistic outside the model’.

It seems that the many different ways in which students perceived the PFN model made it a strange learning environment. The literature acknowledges that unfamiliar teaching and learning methods generate in students what Griffiths *et al.* (2005) called a 'learning shock'; the experience of frustration confusion and anxiety in students. In these situations, students create a personal defence system against the non-familiar form of learning. According to Claxton (1984), there are four kinds of assumptions students take on in order to construct a defence system: 1) I must be competent; 2) I must be consistent; 3) I must be in control; and 4) I must be comfortable. Although a personal defence system is important for self-identification and protection, too much in the way of defences may hinder the student's ability to learn. Acknowledging that learning is about change in the learner's beliefs and behaviour, and that this kind of change is unpredictable by nature, one must accept that learning creates uncertainty. Learning to deal with uncertainty is therefore essential as a pedagogical aim. Thus the learning environment should also confront the difficult question of making uncertainty manageable.

#### **14.4 The Teachers' Approach to the PFN Model**

A very important topic in the discussion of the PFN is that of the teacher's approach to the model. Students' descriptions notably demonstrate the influence of teachers in the way they (students) acted within the model. Much has been written about teachers' and tutors' concepts of and approaches to teaching and learning in education from a phenomenographic perspective (Prosser and Trigwell, 1999; Ramsdem, 2003; Åkerlind, 2003a; Åkerlind, 2003b; Ashwin, 2006; Watland, 2007).

Ashwin (2006), for example, describes four qualitatively different ways in which teachers may approach tutorials: a) as a place where tutors help students to develop an understanding of concepts; b) as a place where students see how to approach their discipline; c) as a place where evidence is critically discussed; and d) as a place where new positions on the topic are developed and refined. In all of these approaches, discourse is the major medium of interaction between tutors and students. However, the categories in Ashwin's research were constructed by interviewing teachers themselves.

In distance learning, Watland (2007) proposed a phenomenographic categorisation of students' perceptions of the tutors' roles. Watland described students' perceptions of tutor's support in online courses as composed of five categories: a) uninvolved; b) confirming; c) elaborating; d) encouraging; and e) confrontational. Although Watland's research is from the perspective of students, it presents a very different outcome space from the one proposed in my research. This highlights the importance of considering both the perspective from which the research was constructed and the subject matter to which it refers (Hounsell *et al.*, 2005).

Research has also shown that teachers' and students' orientation to learning are interrelated. In relation to the dichotomies of surface/deep and transmitting/student-centred learning, when teachers demonstrate a 'transmitting knowledge orientation to teaching', students are more likely to show a 'surface orientation to learning'; conversely, when teaching staff report a 'student-centred orientation', this is slightly positively correlated to students demonstrating a deeper approach to learning (Trigwell *et al.*, 1999). However, the research and the discussion are mainly focused

on what happens in higher education, and to the types of learning methods most commonly found in these settings (lectures, tutorials, group work and distance learning).

As my research was not directly designed to explore the variation in students' perceptions of teachers' roles in the PFN, my intention here is not to present a phenomenographic description of teachers' approaches to the model. What I want to demonstrate is how the data reveal many features of students' perceptions of their teacher's role. It is probable that the categories as expressed below do not represent the full spectrum of possibilities for the teachers' roles, therefore, I will present only a brief note on their description and meaning.

In this research, the data available pointed to three distinct ways in which students perceived the teachers' roles in the model. These were based principally on the subcategories of category 2 – the 'way of learning' category. These subcategories are: 'learning by instruction; 'learning by example'; and 'learning by error'. Teachers were perceived in the model as:

- b) Guiders who developed students' conceptual standard competencies;
- c) Motivators or mirrors who developed students' social standard competencies;
- d) Observers who allowed students to learn by themselves

Teachers who students perceived as 'guiders' were those who students viewed as unveiling the representations of knowledge: concepts and ideas. The concepts and ideas presented in the literature about management were generally treated as *commodities*, as expressed by Boot and Hodgson (1987). From a student perspective,

teachers who presented such an orientation were important because they offered guidance to students about what was expected from them in the model. One student said

*In my opinion ... the most important day was the first one ... when the teacher [ ... ] told us about the sectors of the Practice Firm ... and gave us an overall description of the function of each one ... and how it worked ... (MTS-10).*

Teachers who were seen as motivators or mirrors to the development of social standard competencies, invested in one-to-one relationships and were almost considered as group members. As expressed by this student

*Our tutor [name] turned our class upside-down, he tied the class up ... he captivated everyone, made things happen ... and motivated each one to do his bit ... (MTS-08).*

Finally, teachers who were seen as observers and allowed students to learn by themselves considered mistakes as great opportunities to learn, and generally stepped aside and let the student learn by committing errors. This kind of teacher orientation can be demonstrated in the following citation,

*Something that I will not forget is ... the time we were balancing the company ... we saw how we regretted terribly the things we did badly in the beginning ... everyone regrets in the end ... I did talk to (name of the*



*tutor) ... why don't you call in the freshers and order them to organise the company from the beginning ... it's a lot easier in the end when you do that ... then he replied 'you learned this in the end, didn't you?' 'yes, I did' [I replied. and he said] ... 'then let them learn in the end as well ...'(MTS-11).*

The complex and sometimes conflicting nature of the teacher's role was not only revealed by his approach to the model, but also by the different labels students attached to him. In an academic approach, he was called 'teacher'; in a group approach, he was sometimes mentioned as 'leader'. Alternatively, he was sometimes called the 'boss', the 'coordinator' or the 'chief'. It is worth noting that this feature was not stable. Some students in the interview may have initially called the teacher a 'boss' and later may have referred to him as a 'leader', or simply a 'teacher'.

Another example of the importance of the teacher's role in the model is expressed in the sub-category I called 'learning by example'. Learning by example, or by imitation, is crucial in early infancy, as demonstrated in studies of language acquisition, for instance. In educational practice, Dewey (1910, 1991) observed that "everything the teacher does, as well as the manner in which he does it, incites [the learner] to respond in some way or other and each response tends to set the child's attitude in some way or other (p.47).

Although Dewey's citation refers explicitly to the child's attitude, this attribute also seems to be important in later stages of education, as suggested by the data from my research. In the PFN model, this type of teacher's role was evident when, for example,

the teacher sorted out a problem (see example on page 289-290) in front of the group. The students learned by adopting what they saw as good in the teacher's handling of the situation. Nevertheless, a comprehensive understanding of the relationship between teacher's attitude and student's learning in the PFN remains to be studied.

These features demonstrate that the PFN model constitutes a completely different setting from other learning environments (such as lectures, tutorials, work group, networked learning), when referring to the relationship between students and teachers. Therefore, the model seems to present a different set of problems. One of the reasons for this is that the learning process in the PFN model is more unpredictable than in other learning environments. In the PFN model, therefore, it is unlikely that teachers would be able to plan in advance what to teach and what students should learn out of the model. Moreover, although discourse is still a very important medium in the model, it is not as prominent as in the traditional lecture, for example. This uncertainty of processes and outcomes leads to the question of what the teacher's role in the PFN model should be. Gramlinger (2004), suggests that teachers in the model ought

- To cooperate more and use team-teaching;
- To be less of an instructor, more of a facilitator;
- To make choices which are then transformed into learning aims;
- To engage in permanent and ongoing learning (p. 87).

Nevertheless, Gramlinger does not discuss these points much, and only recognises that this learning environment can be threatening for teachers as it requires a good deal of

work insomuch as “teachers are confronted with extraordinarily high demands, including different contents, a new social setting, and a new role” (p. 88).

### **14.5 Reconsidering the PFN Model**

Some authors believe that one of the pedagogical aims of professional schools, among them management schools, is that students should acquire ‘expertise’ or ‘scientific expertise’ (Boshuizen, 1999). According to Boshuizen, ‘scientific expertise’ means that “the university or the polytechnic should take care that graduates do not enter the workforce with a head full of knowledge, while they still have to learn to know the daily practice and reality of their domain” (p. 185). The PFN model orientation moves towards this end. By freeing students from the traditional classroom and inserting them into simulated businesses environments, the PFN model allows students to have a mixture of intellectual and performative experiences of managing.

One of these types of experience in the PFN model was expressed by the category I called ‘learning by doing’. It is one the pillars of the PFN discourse that students acquire expertise when learning in the model because they learn by doing. However, learning by doing is not a sufficient condition and can be harshly criticised in management education, especially if it means that students learn by doing what they are told to do unreflectively. To be meaningful, tasks need to be authentic and “it is not always clear to whom and to what extent an authentic task really is ‘authentic’” (Kirschner *et al.*, 2004: 22).

In my view, and according to the data, the PFN model is potentially useful not because students learn by doing, but because it can liberate the purposes of learning.

By this I mean that, although the purposes of institutionalised education and learning would still be in the PFN, they would have to be negotiated continuously and no content to be internalised would be supposed to predate this negotiation. This negotiation would be individualised and everyone would possibly learn different things, in a different way, and at a different and individual pace. In this type of learning environment not only ‘acquisition’ of knowledge is possible, but also what Weick (2007) called ‘dropping one’s tools’, that is, the disposal of “those perspectives that are redundant, useless, secondary, and contradictory” (p. 11).

Another type of negotiation of meaning would have to occur in the manifestation of the bipolar nature of human action: cooperation *vs.* competition. Actually, competition and cooperation are different sides of the same coin, although competition is emphasised more than cooperation in our Western society. Competitiveness is a legitimate end in the macro-domain discussion and it is present, for example, in the policy discourse at the governmental level, to sustain industrial leadership in developed countries and to expose peripheral economies of developing ones (Lall, 2001). In his micro-discussions at the individual level, Huizinga (1970) states that competition is “an instinct”, a “desire to excel others, to be the first and to be honoured for that” (p. 50). As a cultural feature, concludes Huizinga, competitions “do not proceed from culture, they rather precede it” (p. 67). Competition in the PFN model may be seen as a reproduction of this social and anthropological pattern.

One issue is to recognise the competitive culture flourishing within the model; another issue, however, is to recreate unreflectively the competitive climate already present in society in the learning environment. Here, it is important to ask what type of

objectives can be facilitated by a competitive structure (Johnson and Johnson, 1975). According to Johnson and Johnson, competitive skills like “knowing how to be a good winner and loser, how to compare one’s performance with that of other students, and how to obstruct the performance of others” (p. 33) are some of the issues that can be learned in a competitive situation. Should schools uncritically promote all these kinds of skills? Or should schools be a place to discuss the rationale, including the advantages and disadvantages, of competitiveness as already present in society?

Johnson and Johnson add that the use of competition in education is sometimes supported by the myth that “our society is highly competitive and students must be educated to succeed in a ‘survival of the fittest’ world” (p. 45). However, competition to guarantee a place in the elite class can lead to educational distortions, such as students in South Korea who cheated in tests, as I have cited in Chapter Four. Thus, educational institutions should take special care in dealing with the dualism of competition *vs.* cooperation in learning environments such as in the PFN model.

The final point I would like to put forward here is the importance of assessment and the outcome (degree) in the educational system, and the control that educational institutions exercise over the achievement of this outcome. According to Rowntree (1977, cited in Lucas, 2001), “assessment is possibly the most important of all the contextual variables that might affect the approaches to learning adopted by students” (p. 181), because, implicitly or explicitly, students perceive that assessment system reveals what the course is really expecting of them and that the criteria assessors use exposes the hidden curriculum (Rowntree, 1998).

Therefore, although the experience of being educated is considered important, students will be frustrated if their purpose of achieving a degree is not met. In this view, the most important process within the process of being educated is that of achieving the desired outcome: the degree. Research in approaches to learning has demonstrated that students usually deal with this issue by strategic means (Biggs, 1987; Entwistle, 1998). Indeed, if the learning experience is not meaningful, as soon as students gain the marks required to secure a pass, the discipline becomes history, something to be put in the CV, and the content is discarded. This can be regarded neither as a pedagogical process nor as an educational outcome.

#### **14.6 The PFN and the Concept of Management Education**

In this section, I wish to discuss how students' descriptions of the PFN model and the set of categories of description provided by the research relate to some aspects of the concept of management education as it was approached in Chapter Five. In that chapter, I reviewed in the literature the problems of management education as a concept, as an academic discipline, and as a preparation of managers-to-be.

As a concept, one of the reasons why management education is problematic is because the qualifier of the expression, i.e. management, does not seem to identify a specific problem-object to be investigated. Those who, for example, tried to define what management is by what managers do (Mintzberg, 1973) failed to take into account at least two conceptual issues: firstly, by what criteria those who call themselves managers are denominated so; and secondly, by what principle their acts are differentiated between managerial and non managerial.

In the PFN model, for instance, the appointment of students to play the function of managers in a job-rotation basis fails to demonstrate the power relations in the organisational hierarchy. In this way, the tutors of the model do not confront the students with the power problems of the management concept. Furthermore, as the students know that there is not much difference between the roles in the model, and as the time they have to perform their roles is relatively short, they seem not to attribute importance to this question. The students expressed this view in various forms. Sometimes they notice that they are all friends in the PFN and that, in fact, there is not much hierarchy between students and managers. At other times, they mentioned that some management roles in the model were not really important.

As an academic discipline, one of the reasons why management education is problematic is because it lacks the appropriate teaching methods that characterise specific disciplines. Management is not even considered a discipline “in the conventional academic sense” (ESRC, 1994: 5, cited in Danieli and Thomas, 1999: 455). In fact, the three basic disciplines that Gordon and Howell (1959) believed management drew on – economics, mathematics, and behavioural science – are not sufficient to explain the field of management. Management educators use a plethora of methods, ranging from the conventional lecture to exotic experiences of jungle immersions, to teach about management. In the PFN, the data showed that, from a student perspective, the model is far removed from the ‘descriptive approach’ cited by Gordon and Howell (1959) in their report, and fits better with the ‘problem-solving situation’ approach outlined by the authors. However, in the model there is still a significant search for generalisations which characterise the analytical approach. This

is demonstrated in the category that I called 'discipline experience', especially in the sub-category called 'discipline'.

Finally, management education also seems problematic as a preparation of managers-to-be. One of the reasons is because, as stated by French and Grey (1996), there is a huge array of problems which need managing and these problems are neither exclusively technical nor social. Nevertheless, there is a "continued dominance of technical/instrumental rationality in the content and conduct of management education [...] a dominance that is reinforced by the instrumental interests of students, teachers and sponsoring organisations" (Roberts, 1996: 54-57).

In conclusion, according to French and Grey, the management education concept may not be the solution, but part of the problem, "... an illusory activity ... management education must abandon its pretension to be able to provide management skills in any traditional sense" (p. 3).

When compared to Holman's (2000) models of classifying management education, the PFN model could be better situated alongside the model Holman called 'experiential vocationalism'. As Holman states, experiential vocationalism representatives argue that "management education is too theoretical and needs to become more practical and pragmatic" (p. 207). This seems to be the aim of the PFN model.

It should be noted however that Holman's classification is based on a theoretical discussion of five theoretical axioms: a) an epistemological axiom which refers to the



“nature of knowledge that should be pursued in management education” (p.199); b) a pedagogical axiom which is concerned with “a theory of the learning process; the specific, intermediate and general ideal pedagogical aims; and methods of teaching” (p. 199); c) a social axiom which “is concerned with the role of management education in society (p. 200); d) an organisational axiom which relates to “the appropriate ways of organising and managing management education” (p. 201); and e) a management axiom which “refers to the nature of management practice” (p. 202).

Nevertheless, any concrete articulated model in operation is a complex structure and may not fit properly into the structure of Holman’s models. As Holman (2000) notes, the models “are not meant to accurately reflect practice, although they may inform practice” (p.198). In fact, concrete instances of management education, such as the PFN model, may contain traces of all of Holman’s models. Having considered this, I shall now comment on some features of the PFN model which have parallels to Holman’s four models of management education.

Broadly speaking, Holman’s version of ‘academic liberalism’ is present in the PFN model in the category called ‘Discipline experience’. In this case, the epistemological axiom is “the active acquisition of formal theoretical knowledge, the acquisition of skills that enable a critique of this knowledge, the integration of this knowledge with one’s experience, and the ability to take action based on this knowledge” (Holman, 2000: 199). This view could be exemplified in the PFN model many times. For example, asked to summarise his experience in the PFN, one student declared that he had learned “the necessity of downsizing the company, breaking down the barriers between departments and integrating them” (Pita-09).

However, the point being made here is the question of how students could generalise from their personal experiences in the PFN the necessity of downsizing and integration in all situations. Did they consider the context and the constraints of the PFN learning environment and of a real situation? Had the generalisations they were making been unreflective of context and constraints, the learning outcome of their experiences would have the same effect as academic methods; that is, the acquisition of decontextualised knowledge, reinforced in this case by a declared active participation in the process.

This point indicates that ‘academic liberalism’ and ‘experiential liberalism’ may have a link, namely, that the ‘experiential liberalism’ model of management education may be just a label for the same kind of educational epistemological aim intended by ‘academic liberalism’, but with some kind of subjective and experiential learning processes (Holman, 2000). This view is present, for example, in Kolb’s (1984) model, with the four phases of the learning cycle (concrete experiences, reflective observation, concept formation and testing). Kolb’s model, however, has been criticised, as I have outlined in Chapter Four, as lacking a political perspective (Holman *et al.*, 1997), as desconsidering psychological and unconscious processes (Vince, 1998), and as employing an improper sense of unidirectionality (Davies, 2002). This lack of a political perspective, of a desconsideration of psychological and unconscious processes and of an improper use of unidirectionality may also be attributed to the way in which the PFN model is used.

Features of experiential vocationalism are also present in the PFN model. For example, the subcategories I called ‘routine’ and ‘learning by doing’ recall Holman’s

descriptions of experiential vocationalism, with “a focus on learning by doing and learning from experience” (p. 207). Although Holman considers that in experiential vocationalism “‘doing’ is viewed as being both separate from and privileged over theoretical knowledge” (p. 207), students in the research basically differentiated ‘doing’ in two ways. ‘Doing’ was experienced as meaningless – a pointless experience – when it was done as duty, as routine or even as ‘contrary to reality’. From another point of view, ‘doing’ was viewed as meaningful when students perceived the added value of the activity. In summary, ‘doing’ was viewed in two contrasting ways by students. Either it was considered ‘necessary’ to acquire competence in specific skills, even if they were not managerial skills, or it was considered ‘boring’ like the repetition of a ‘pointless’ activity. What I want to stress here, which has been demonstrated in this research, is the fact that what seems to be important in the experience is not the form of the activity itself but the possibility, or lack thereof, of attaching meaning to it.

Another issue that can be related to Holman’s four models of management education is the fact that, although there were a lot of comments that could be classified as criticism of the PFN model in students’ descriptions, I could not see any consistent element of Holman’s experiential/critical school model in these descriptions. This lack of critical perspective according to Holman’s sense may suggest that the PFN model was unable to provoke a critical view in students’ perception of management education. Neither MTS nor Pitágoras students expressed anything that could be classified as critical in the sense of Holman’s categorisation of the experiential/critical school model, where “learners question the social, political, ecological and cultural

assumptions of their knowledge base, be it theoretical or experiential” (Holman, 2000: 208).

This lack of a critical approach was specifically pointed out by one student who complained that the PFN model, in her view, lacked one important educational purpose. In her own words

*[Obviously that] ... you have to know how to do the technical issues ... cash flow and the like ... but I think that the most important was not considered ... [the question for instance of ...] job ethics ... you learn ... anyway ... [even] ... by committing mistakes ... you learn [the technical subjects] ... but to learn how to deal with ethics in the enterprise ... to be cooperative with peers ... I think this ... they did not teach ... (MTS-10).*

This citation reflects students’ awareness of the lack of a more powerful integration in the PFN model: integration not only of practical content but also of education for practice. It reflects, in Shulman’s (2005) view, the need to conceive professional education, and the learning environments conceived to achieve it, as a synthesis of three apprenticeships: a cognitive apprenticeship to learn how to think like a professional; a practical apprenticeship to learn how to perform like a professional; and a moral apprenticeship to learn how to integrate thought and action in a responsible way. If these conditions are not fulfilled, one should question if management education can be educational (Thomas and Anthony, 1996).

With this discussion, I hope to have contributed to the literature about the learning environments, and particularly with an understanding of the PFN model from a student's perspective; this was the main objective in my research. The model is complex and the complexity of the model is not yet well understood. Only recently has the literature tried to describe the features and challenges of learning environments such as the PFN model, which have been called "complex learning-teaching arrangements" (Simons and Bolhuis, 2004) or "powerful learning environment[s]" (Merriënboer and Paas, 2003; Bereiter and Scardamalia, 2003; Corte *et al.*, 2003; Vermunt, 2003).

Another contribution that I hope to have made with this discussion concerns the intertwined relationship between meaning and structure in a learning environment. Although meaning and structure are basic concepts in phenomenography (Marton and Booth, 1997), phenomenographic researchers usually take this relationship for granted. Because of the nature of my phenomenon of study – a specific model of learning environment – this relationship between meaning and structure came to light distinctly in my research. Students' descriptions showed clearly that they have experienced the PFN model in terms of meaning and in terms of structures.

I believe that this relationship deserves further attention in the learning literature, should we hope to understand how students go about their learning in complex learning-teaching arrangements. The outcomes of the research indicate that students are primarily concerned with meaning in learning environments. However the structure of the learning environment may highlight meaningful signs; these signs may

be positive or negative ones. I have shown in my research that when signs from the PFN model were conflicting this made students confused and disinterested.

Finally, I think that I may have not captured all possible meanings and subtleties of the PFN model, both because other samples could reveal hidden aspects of the model and because this research is concerned solely with students' perceptions of the model. As this is the first study conducted about the model from a phenomenographic perspective, it may be expected that further research will be able to improve the structure of the outcome space as I constructed it here. In the same vein, research on the teachers' experiences of the model (and those of other types of participants, for instance, technicians and business partners) may contribute to a better understanding of the model.

## **14.7 Summary of Chapter Fourteen**

In this chapter, I discussed the relationship between the outcomes of the research and several issues related to management education. I began by discussing how the seven qualitative categories of experiencing the PFN could be grouped in two dimensions: one dimension that I called the 'meaning dimension' and another that I called the 'structural dimension'.

The meaning dimension showed that students experienced the PFN model as a range from a 'pointless' experience to a 'realistic experience'. The structural dimension showed that students experienced the model in four ways: as a school discipline, as a group task, as a competition and as a simulation. In this chapter, I emphasised the

many problems that students find in the model. I also outlined and discussed what potential advantages I see in using the model, based on the literature and on students' perceptions.

My basic conclusion is that the PFN may be considered to be 'a powerful learning environment' in the sense that it may potentially be used to promote increasing "conceptual understanding", "higher-order cognitive and meta-cognitive skills" and "self-regulated learning" in students (Vermunt, 2003). The potential of the model, however, is highly influenced by teachers' approaches to the model.

In the next chapter, I propose to present a summary of this research, and also what I perceive the implications of this study are for the practice of the PFN model, and for the theory of the model and other experiential learning environments.

## **15 Chapter Fifteen**

### **Summary of the Research and Implications**

#### **15.1 Introduction**

In this final chapter, I will present a summary of the work, deriving some implications that this work may have for the theory and practice of learning environments in management education in general, and for the PFN model in particular.

I will finish by presenting a brief comment about some limitations that may have influenced both the way that I examined the theme and conducted the procedures, and the findings that I was able to achieve in this research.

#### **15.2 Summary of the Thesis**

Management educators have struggled to find ways to teach and to provide learning about management in a way that gives students a sense of the real world (Mintzberg, 2004). This is true not only in upper levels of management education, such as the MBA degree and in management development (for example, Revans (1980) and the action learning movement), but also when it refers to undergraduate students and in lower levels of preparedness to face the organisational world (Abbot, 2003). The challenges in management education range from the policy level to the operational level.



In the field of instructional contexts and methods, one of the challenges has been the creation of pedagogical strategies and learning environments which could introduce students to 'real-world scenarios' of managing. These strategies and scenarios include management games, business simulations, venture enterprises and service learning. Some characteristics of these methods are authentic efforts to bring management students to a real world scenario, others just sophisticated ways of transmitting old ideas. Moreover, these methods normally operate as separated pedagogical units, encapsulated in isolated educational institutions.

From the beginning of my academic career, I felt some intellectual discomfort with using traditional pedagogical methods, particularly lectures, to teach about management. In the searching for new methods to try out with my classes, I was introduced to the PFN model. I noticed unique characteristics in the PFN model, as described in Chapter Two. One of the exclusive features, for instance, was the link that participants from different institutions create between themselves, generating a network for the purpose of learning about business and about managerial skills. This and other distinctive characteristics lend the model potentiality to be a learning approach which could bridge the gap between theory and practice in management education.

However, I also noticed that few members of the academy appreciated the model, and those who did showed a shallow appreciation, approaching the model only from a first-order perspective, describing the phenomenon from a researcher's point of view. When I had the opportunity to do my PhD, I decided to research this learning environment as my phenomenon of study.

The research was carried out adopting a phenomenological approach from a second-order perspective, that is, my descriptions of the phenomenon were anchored in descriptions of those who had experienced it. I looked for theoretical support in conceptual models that approached the learning experience from a holistic point of view, and found the 3 P Model of Teaching and Learning useful. I adopted a constitutionalist phenomenographic perspective of this model (Prosser and Trigwell, 1999). The theoretical perspectives on the concepts of learning experience, management education and the PFN as I used them were described in Section Two.

What did students think and how did they experience this learning environment? This was my fundamental question in this research. To describe students' perceptions of the PFN was considered important because a) research has demonstrated the need to move from the 'one size fits all' approach to what Hounsell *et al.* (2005) named WTP (Ways of Thinking and Practising) in a subject; b) no other previous research had looked at the PFN from the students' point of view; and c) the results of the research were expected to generate ideas to the improvement the PFN model specifically, and other experiential learning environments in general.

Using a phenomenographic approach, I collected and analysed the data from students of the model in two educational institutions in Minas Gerais, Brazil. The students took part in the model in the second semester of 2004 and the first semester of 2005, and they were interviewed in September, 2005. The characteristics of a phenomenographic approach and the details of its application in the field were described in Section Three.

The analysis of data was divided into two case studies. The first looked at Pitágoras students' experiences of the PFN model. The inspection of the data revealed that students' experiences of the model could be constructed in seven qualitatively different categories. Another case study was elaborated with MTS students' description of the model. The analysis of these data showed that the same seven categories could be constructed from MTS data. The seven categories constructed from these two case studies revealed that students experienced the PFN as a

- 1) Pointless experience;
- 2) Discipline experience;
- 3) Group Work experience;
- 4) Competitive experience;
- 5) Simulated experience;
- 6) Way of Learning experience; and
- 7) Realistic experience.

A further inspection of the data revealed variations within the categories as named above. This variation was explored and the outcomes grouped into subcategories. These subcategories were defined and exemplified. This structure of categories and subcategories was arranged to compose what is called in phenomenographic research the 'outcome space'. This arrangement was named Version I.

I then perceived that the seven categories and the subcategories could be rearranged in two dimensions, which I called 'a dimension of meaning' and 'a dimension of

structure' of the outcome space. This final structure of the outcome space was called Version II and can be showed in this way:

**Table 13 – The Overall Structure of the Outcome Space –Version II**

Meaning		Structure	
Categories	Subcategories	Categories	Subcategories
1) Pointless experience	Contrary to Reality	4) Discipline experience	Discipline
	Duty		Project
	Routine		
2) Way of Learning experience	Learning by Instruction	5) Group Work experience	Social Pressure
	Learning by Example		Team Work
	Learning by Doing	6) Competitive experience	Competition between Individuals
	Learning by Error		Competition between Pfus
3) Realistic experience	Realistic	7) Simulated Experience	Simulation as Events
	Constrained by the Model		Simulation as Occasional Situations
	Realistic Outside the Model		

**Source: Research Data**

The final outcome space of the research shows that the PFN is a complex learning environment from the students' perspective. The two dimensions in which I framed the outcome space were essential to demonstrate that students defined the PFN model in terms of meaning and in terms of structure. When I separated these two dimensions I perceived that, in terms of meaning, students described the PFN model in a way which showed that their experiences ranged from a 'pointless experience' to a 'meaningful experience'. As a pointless experience, the tasks and activities in the model are described as contrary to what happens in the actual business world, or treated as mere routine and duty. In contrast, as a 'meaningful experience', the tasks and activities in the model are treated as real in their own right even when students realise that this is just a learning activity. How I constructed the outcome space from the two case studies and the description of categories and subcategories was shown in Section Four.

### **15.3 Main Conclusions**

These are the main conclusions that could be drawn from this research:

- a) Students experienced the PFN in qualitatively different ways;
- b) The range of variation could be organised to show that students described their experiences in the PFN ranging from a completely 'pointless experience' to a 'realistic engagement' with the model.

- c) I realised that students devalued the PFN model according to the extent to which they perceived it as a 'pointless' experience, and they valued the PFN model when they perceived it as adding meaning to their educational experience. This was considered to be the meaning dimension of their experience.
  
- d) At another level, students described the PFN model in terms of structures of learning, i.e. academic disciplines, group work, competition or simulations in which they had to deal with tasks and solve learning situations. This was considered to be the structural dimension of their experience. Whether or not they learned from experiencing the model in these structures was considered situational.
  
- e) Students may or may not learn when experiencing the model in a certain structure, depending on contextual factors such as the relationship they attribute between the situation and reality or the approach of the teacher;
  
- f) Students' approaches to the PFN model nevertheless were neither fixed nor unidirectional. Students described their experience as evolving and the change occurred in both directions: either from 'pointless' to 'realistic' or from 'realistic' to 'pointless'.
  
- g) Teachers' approaches to the model significantly affected students' experiences of the model.

These conclusions have some implications for the theory and practice of the PFN model specifically and to some other experiential learning environments. Below, I describe what I think these implications are.

## **15.4 Implications**

The study showed that students' conceptual framework of the PFN model differed substantially from the view by which the model is conceptualised and described in the literature on learning environments in general. One basic implication of this point is that more research should be conducted into how students approach and perceive specific learning environments in which they take part. In other words, students do not only approach learning in general; they approach learning in relation to the specific context into which they are inserted.

This implication certainly throws a new light on issues concerning the practice of the PFN; it also sheds light on other experiential learning environments and on educational theory. Since these implications are clearer with respect to the practice of the PFN, I will begin the discussion with this issue before turning to a broader consideration of the implications of the study.

### **15.4.1 Implications for the Practice in the PFN**

The outcomes of this research suggest some implications for the practice of the PFN model. The main implication for practice, as I see it, is suggested by the two extremes of the meaning dimension in which students experienced the PFN model: on the one

hand, the PFN experienced as a 'pointless' category and, on the other hand, the PFN experienced as a 'realistic' category.

The basic assumption here is that designers and teachers in the model would like to avoid students experiencing the model in the level of lack of meaning – a pointless category. That is, there is no pedagogical sense in keeping students doing things which are not adding to their learning aims. To raise the experience of students to more meaningful ways of experiencing the model would be the basic pedagogical aim.

It must be noted, though, that apart from category 1 of experiencing the model, the PFN as a 'pointless' category, which is definitely an inadequate level of experience, the model offers students a flexible array of experiences. By this, I mean that structures and roles in the model are considerably more flexible than in other learning environments. This characteristic provides designers with space for innumerable forms of arrangements and rearrangements of structures and agency in the PFN.

However, as Trummer (2002) recognises “school Practice Firms tend to establish fairly uniform organisation structures regardless of objectives and subjects” (p. 50). Students' descriptions of the PFN in the research also demonstrated that the possibilities of flexible structural and functional arrangements were not fully considered in the model. For instance, students usually described their Pfus as comprising the traditional organisational functions of HR, Finance and Marketing. Production was generally not considered, as the Practice Firms normally did not produce anything.



Trummer adds that, in the PFN model, students should be given “opportunities to deal with strategic orientation of the Practice Firm” (p. 50). Nevertheless, strategic decisions are long-term oriented decisions which are incompatible with the way the PFN model is generally structured, in which the entire staff is changed each school term. In this short period, nonetheless, the PFN as an experiential learning model should give students space to experience new forms of organising the PFN both structurally and functionally.

There are implications also for teachers’ roles in the model. The basic implication is that teachers should have a clear understanding of their influence in relation to the ways in which the PFN model is experienced by the students, that is, they should understand that their positioning influences students’ perceptions of the model and their interpretations of the content.

For instance, teachers who approach the PFN model in an academic perspective lead students to believe that the model was constructed to allow students to use knowledge as derived from the disciplines. This argument is congruent with research about teachers’ conceptions and approaches to teaching and learning, which shows that some teachers conceptualise knowledge as commodities to be transmitted (Dall’Alba, 1991; Prosser and Trigwell, 1999). Therefore, one of the aims of educational institutions and their learning environments would be the storage and facilitation for the transmission of knowledge. Teachers who state these objectives for the PFN model are approaching the model as a ‘discipline experience’ – category 4 in my construction of the outcome space.

Teachers who argue that the PFN model is an opportunity to provide students with group work experience lead students to believe that organisational work is work in groups to achieve goals, since groups are more effective in bringing about change than stand-alone learning (Askew and Carnell, 1998). Therefore the aim of the PFN should be the provision of a learning environment in which one could improve the ability to work as a group or as a team. It should be questioned here if teachers using this approach in the research were really defending this approach to learning, or if they were just adopting this method of teaching because it would fit better the purpose of knowledge transmission. This was not the purpose of my research, and would have to be researched separately. Nevertheless, teachers who encouraged students to work and perform in groups treated the PFN model as described in the 'group work' category of my construction of the outcome space.

Teachers who approached the PFN model as environment to promote simulation of the market and competition between Pfus in the learning situation lead students to respond competitively. These forms of relating to the model, evoking likely real-world situations, also denote profound assumptions about the organisational reality and the learning processes. In this form of approach, teachers should be especially careful with ethical and moral issues, as real-world-like situations may have hidden and subtle misconceptions of learning principles, as demonstrated in one interview in which the student concluded that 'customers like to be deceived' (MTS-15).

Moreover, it should be noted that the model could incorporate multiple views and that teachers could have different roles in the model. Academic views, group work structures and competitive activities, for example, are not mutually exclusive. Role-

plays, for instance, incorporate many of these features (Ments, 1983). Nevertheless, each perspective requires different commitments, special support, and particular specifications for the teacher's role. This set of requirements, support and specifications should be treated more explicitly in the PFN model.

Should the PFN model be directed more to an academic experience, for instance, teachers would be expected to provide more precise guidelines on what students are expected to do in the PFN model. The academic disciplines would be a support to provide students with knowledge of what is 'recommended' to do in certain situations. Students would then apply those recommendations to 'acquire' the ability to deal with that situation. However, this perspective is barely supported by an environment like the PFN model.

Should the PFN model be more directed towards a realistic experience, tutors would be expected to be more able to 'read' and deal with novel situations in order to support students learning than to provide 'right' or 'wrong' answers to the situation. Acknowledging that novel situations can be tricky, even teachers could be considered learners in these situations. Nevertheless, they could, possibly, provide students with frames of thought that students were not accustomed to use and, sometimes, these frameworks would be better than those of the students, although tutors could not guarantee the success of their framework. Realistic ways of experiencing the PFN and, in fact, of any other experiential learning environment that tries to simulate the real world may not just be tricky; they may also be too risky. Teachers would need to be prepared to deal with these new conflicts and demands (Gramlinger, 2004).

In summary, from the students' perspective, what the research points to as an implication for the practice of the PFN model is the need of a clearer understanding of what the PFN is and what it could be, in terms of structure and meaning. This understanding would inform better the potentialities and drawbacks of each path that the model may take. The research also pointed to the necessity of a clearer understanding of ethical consequences of more flexible learning environments such as the PFN model, in which the learners have more freedom to pursue and control their own learning. Students usually learn many different things and in many different ways when put in these types of learning environments. What I perceived from students' descriptions is that the PFN model is not a very useful learning environment to reflect on these ethical issues. I hope this research will contribute to a careful reflection on these issues by the practitioners.

#### **15.4.2 Implications for Theory**

I also see some implications for theory, especially for experiential learning theory, arising from the outcomes of this research. The main general implication for experiential learning theory is that complex learning situations, like those that experiential learning designers try to create, should be viewed as an intricate thread of meaning and structure. Instead of broad generalisations, experiential learning situations should look for the constituents of meaning and structure which that particular learning situation requires. This is in line with Hounsell *et al.*'s (2005) research report which suggests that "research should treat subject area differences seriously in investigating the effects of teaching-learning environments on student engagement and the quality of learning outcomes"(p. 12).

The combination of structure and meaning as the basic concepts for understanding a learning experience may have other implications. For example, in an ideal world, students and their learning environments would be in perfect harmony. Students would recognise the structures as meaningful and the structures would help students to develop meaningful concepts. In the real world, however, students may respond to the structure (tasks, assignments, games, PFN) strategically, that is, they may engage in searching for meaning in the activity while they try to respond to those structural demands that are not very supportive of their educational aims. In this respect, they may get on *in spite* of the learning environment. Another possibility is that students demonstrate resistance to what is being expected of them (Mann, 2001) to the point of forcing them to withdraw from the learning experience. The implication here for theory, shown by students' descriptions of the PFN, is that students engage in learning experiences in search of meaning, not structures.

Another important implication of my research to theory is related to the 3 P Model of Teaching and Learning. This model, which evolved from a classroom-based, teacher-centred and system-theory approach, would be better explored from a contextual-based, student-centred and socially-situated approach. One of the reasons for this new approach of the 3 P Model is that the outcomes of a complex system such as the learning experience are *contingent*, that is, "for any set of data about the world [...] there must exist logically independent alternative sets of explanations for that data" (Swartz, 1991: 69). Viewed from this perspective, the understanding of students' approaches to their learning experience could be enriched in ways other than that a causal 'presage-process-product' view implies. The constitutionalist perspective (Prosser and Trigwell, 1999) of the 3 P Model points to this direction.

However, Prosser and Trigwell's constitutionalist way of seeing the model does not describe what one should include in the context of learning. In my model, one of the elements that the context of a learning experience does include is the 'content of the learning experience', or what the experience is about. I argue that this is important not only because experience is about 'experience of something' (Marton and Booth, 1997) but also because teachers and students enter the learning experience with a conceptual understanding of what that experience is about and what to expect from it. This conceptual understanding is influenced by the nature of the content of the experience. Thus, the content of the learning experience is a natural element of the context of the learning experience. It should be noted that there are other elements that would be important to consider in the learning context, for example, institutional policies, methods of assessment, or the whole range of resources other than those at hand in the learning environment, but these elements were not the focus on my research.

Finally, I would like to consider the implications of the research for theory, specifically related to studies about the PFN model. These implications can be stated in two points. The first point is the dearth of attention that the PFN model has received from the literature until now. Whether the attention given to the model in the literature will increase or decrease in the future depends, partly, on whether the model will continue to be supported by educational institutions and become more widespread and, partly, whether it can overcome its deficiencies. It should be noted nevertheless that these two points affect each other mutually.

The other point to emphasise is that my research gave a detailed view of the PFN model from its students' perspectives. Nevertheless, an overall picture of the nature of

the PFN model is still far from complete. In addition to other studies on the experience of students, as I have provided in this research, it would still be necessary to know how teachers, specifically, and other people around the system, for example, business partners and technicians, experience and describe the model. There is no one study from these perspectives; this leaves a large gap in the understanding of the model.

These studies would have to consider local networks to improve the model in specific contexts, and also make comparisons not only with other networks of the model but also with other models of experiential learning. As the model is expanding, the understanding of how to promote better connections between different Central Offices is considered essential to provide meaningful experience to students in the model. An understanding of the model with relation to other experiential learning environments could potentially be useful to both forms of pedagogical environments.

### **15.4.3 Implications for Curriculum and School Programmes**

The results of the research also raise some implications for curriculum guidelines and school programmes. The basic implication in both issues resides in the need for more flexibility in educational methods. This should be stressed especially in professional education courses such as those in management education. There are two aspects of this need on which I would like to comment here: firstly, at the level of the government curricular guidelines in the case of the Brazilian context; and secondly at the level of individual school programmes.

At the level of the curricular guidelines, those responsible for producing the general rules for educational purposes should be mindful of the limits they impose on learning under the guise of the alleged necessity of standards. The outcomes, for instance, in management education are so varied that a curricular guideline stressing particular contents and skills may turn out to be more harmful than beneficial. I would like to mention here, particularly, the Brazilian case in which the curricular guidelines require items such as 'operational research' and 'theory of games' as contents of disciplines in management education.

Secondly, at the level of individual school programmes, the same need for more flexibility and complementary activities should be emphasised. School programmes in management education should highlight learning more as a process and less as an outcome. The focus on learning outcomes, such as degrees, diplomas, certificates, essays, tests and assignments, sells short what ought to be the real outcome of learning: a lifelong learner. The illusions of getting a degree, 'now, I am a manager', may take years to overcome (personal experience).

On this point, however, the Brazilian experience has made progress from the previous definition of a 'minimum curriculum' (CFE - Resolution CFE/02, 1993), which defined very strictly what should comprise the structure of the course (the disciplines of the programme). The concept of 'curricular guidelines' (Resolution CNE/CSE/4, 2005), that is, the definition of the basics of what a management course should provide to guarantee the knowledge and competencies that a graduate should acquire, has now been introduced. Nevertheless, the text of the law still reflects the necessity for control, which may inhibit not only bad but also good initiatives.



#### **15.4.4 Implications for Student's Employability and his/her Relationship with the World-of-Practice**

The PFN model is a step forward compared to more traditional learning environments related to student's employability and his/her insertion into the world of practice. This is not to say that the PFN model, as the model stands, is an ideal model to vocational education in management, but that it gives students a better taste of what it is to be in the world of management than traditional learning.

As stated before, academic management education is frequently too theoretical, given the impression that reality in organizations could be managed by the cognitive understanding of its constituent parts (Human Resources, Marketing or Finance, for example) and its specific concepts. In each of these areas, management issues are treated separately, supported by the expertise of a teacher in that particular area. This is necessary but not sufficient. At the end of a program or course, students are expected to integrate disparate or even conflicting concepts. This hardly happens, as noted Macfarlane and Ottewill (2001). Even when attempts are made to integrate knowledge gained in academic disciplines, these initiatives are limited by the constraints of course guidelines, time or lack of guidance. Management content treated academically does not give the appropriate importance to the messy and indeterminate character of management problems. Management issues involve not only expertise knowledge of how to solve the problem but also posture to how to relate to human affection and beliefs.

Students' perception of the PFN model showed that the model affects students in these two senses: both they learn to apply the content of management concepts, i.e. they are

involved with management content intellectually, and also they are involved with peer mates emotionally either cooperatively or competitively. As they are concerned in achieving their goals within the model, they perceive the intricate nature of achieving goals in an organisational network – the battle between rational behaviour and group commitments.

These characteristics of the model have a positive influence on students' grasping the nature of a management position. They understand, as one student pointed out (Pita-09), that the PFN gives you the taste of what is to be a manager, because you experience nearly everything that happens in a real enterprise. Although, his assertion may be considered exaggerated, what the student is pointing is to the flexible nature of the model that allows the possibility of unexpected situations as in a real company.

Obviously, this understanding of the PFN model is more explicit in students who experienced the model in category 3 – the PFN as a realistic experience - of my outcome space. They noticed and valued the flexible and indeterminate nature of the model and they learned from it. Students who experienced the model in category 1 – a pointless experience – generally felt alienated in the model. A student (MTS-06) explicitly mentioned that the PFN should be more like a traditional lecture with tests and marks.

Another implication of research for students' employability and their insertion into the world of work – in the case of the PFN model in Brazil – derives from the limited importance that students gave to the relationship with the Business Partners in the model. Students' descriptions show that Business Partners are not appropriately

integrated into the model. Business Partners are used both as material and informational sources but they are not integrated into the learning process. As McNickle's (2000) research demonstrates, Business Partners in particular and industry in general may be interested in the development of the model, due to its potential to save time in training and insertion of employees into the organisational culture.

### **15.5 Some Limitations of the Research**

All human endeavours have limitations: in this section, I point to some of the limitations in my research. Limitations are described here not to justify any poor results that I may have achieved in this journey, but rather as examples of constraints that are present in any research process. For example, funds and time are always limiting aspects; they have more impact when you come to a different country, with different customs and expectations.

Reaching some people proved more difficult in some cases than in others, although I was always welcomed by my research contacts. The distance from my phenomenon of study can be viewed either as an advantage or as a limitation. The distance allowed me to step back and have a less biased approach to my phenomenon of study; nevertheless, I was deprived of a deeper immersion into the field of my object of study.

Language was a barrier in two senses. Firstly, because, although the PFN is a worldwide phenomenon, I had to confine my research interests and contacts to those with whom I could communicate, that is, those who spoke either Portuguese or

English. Secondly, language was also a barrier because it denied me access to some literature about the concept of PFN that was only available in German. Additionally, literature about the model in English is rare and the learning environment is not discussed in academia.

In hindsight, the thesis has other limitations. The sample of interviewees was limited by the fact that the participants were interviewed face to face. As I was a full time student resident in the UK during the PhD programme, the contacts and interviews for my research were made during a short visit to my country in September 2005. I had some difficulties contacting Pitágoras' interviewees because all of them had left the Faculty and worked in different places. Had I had more time I could have interviewed more students.

Talking to youngsters from the age of sixteen (MTS' interviewees) was more difficult than I had expected. They usually took for granted that I understood what they had said and they also had more difficulties than usual expressing their thoughts and feelings. Additionally, using phenomenographic interviews as I have described was demanding, as I had to elaborate questions as the conversation proceeded. Moreover, it is not always easy to keep a conversation going with a complete stranger. I also found my decision to ask interviewees to relate three experiences they had had in the PFN model to be a limitation; on occasion, this made the conversation end prematurely. Despite that, the amount of data produced in the interviews was large.

There was a human limitation insofar as it is hard to deal with vast amounts of data. The use of computer software helped, but it did not eliminate the need for

interpretation, or the need to select and construct relationships between the many different transcripts. I think I have constructed a useful framework to understand students' experiences of the PFN model. The framework that I chose was useful to my aim in the research, that is, a broad description of the learner's experience of the PFN model. However, I think that other interpretations and other relational constructions may be formed with the data available.

Additionally, it may have been more convenient to confine the research only to one site. The decision to research both MTS School and Faculty Pitágoras added complexity to the data analysis and did not add as much to the outcomes as I had hoped. Although researching in different sites helped me to explore the details of the model and gave me more insights to the intricacies of the categories, in the end, the set of categories in both sites were found to be the same. This was only possible, of course, in hindsight.

This result, in my view, reinforces the fitness of phenomenography as a methodology to explore people's experience of a phenomenon. The result emphasizes phenomenographic belief that people's experience of something varies; nevertheless this variation is limited to a point, even if one cannot say which point this is.

Finally, as I discussed in the methodology chapter, the outcome space of students' experience described by just only one study may not be complete. Further investigation may demonstrate that other ways of experiencing the phenomenon are possible; this would change the pool of meaning. In the case of the PFN model, it is reasonable to think that in other contexts additional categories may be constructed as

the model has different applications depending on the setting in which it is used. I have tried my best, though, to capture a significant understanding of the PFN model from the students' perspectives in the Brazilian context.

I think that, despite these limitations, I have made a contribution to knowledge.

## **15.6 Further Research**

This research illustrated students' experiences of the PFN model, and the different qualitative ways in which they may be expressed. Nevertheless, a fuller understanding of the model and its potential requires more research at least on the following issues:

### **a) Teachers and others' perspectives of the model**

Although in this study I have described students' perspectives of the PFN model, it would be also important to research how teachers, business partners and technicians approach the PFN. Further studies might also show how these perspectives are interrelated and how they support, or fail to support, the model.

### **b) Developmental studies to investigate how the model influences the changing nature of the learner**

Developmental studies of the PFN, such as the one conducted by Perry (1970), could concentrate on finding how the model influences changes in students' interpretations of the concept of management, in students' perceptions of the nature of management roles, and in students' approaches to other subjects as well. Developmental studies on the model, as it is used in the secondary level of education in Brazil, may also

examine how the model could influence students' decisions on career choices or about what course to choose in higher education.

### **c) Cultural differences and comparative studies**

Cultural and comparative studies on the PFN model could research the similarities and differences of using the model in different countries or regions. The comparison could be used to illuminate particular cultural characteristics of the model and to indicate its various different potentialities.

### **d) Adequacies of age and level of study to the model**

In Brazil, the model is used in colleges and Universities, but the use at each site seems to be valued differently. The discussion about where the model would be more appropriately implemented brings out the issue of rigour and relevance; a question that has been raised from time to time about business schools and management education (Bridgman, 2007). Further research could investigate this issue to determine how students' age and level of studies influence their commitment to and understanding of the model.

## **15.7 Concluding Remarks**

Taking a broad perspective, the research has delineated that, from a student point of view, learning environments should be viewed in two dimensions: a meaning dimension and a structural dimension. Students enter, or drift, into the learning environment in search of meaning. The structures they encounter may or may not encourage their engagement during the learning process in search of meaning.

I hope that this research has drawn attention to the complexity and dynamics of learning environments such as the PFN model and the relationship between meaning and structure in learning environments. The research confirms, as argued by Hounsell *et al.* (2005), that particular contexts for learning should be specifically investigated to understanding a learning experience. There is no point in applying conventions designed for lectures or business games, for instance, to learning environments like the PFN. The consideration of this point may help to provide more applied theories in educational research.

As educational research advances and learning contexts become more student-centred, studies based on the understanding of students' approaches to their learning environments gain importance and relevance. This research has illustrated not only the complexity and dynamics of the PFN model, but has also done so from the students' point of view. Although phenomenographic research has the major aim of bringing increased understanding and awareness of the world, I also expect that my research should be viewed as an essential contribution to the enhancement of learning environments. I believe that the value of an academic thesis is its potential to bring change about the world.

Thus, to finalise I would only cite Churchill's words

*This is not the end. It is not even the beginning of the end. But it is, perhaps, the end of the beginning.*



## Appendix A – List of Web Sites

<http://egni.morgannwg.ac.uk/>. Last accessed 12/07/2007

<http://portal.unesco.org/education/en/> .last accessed 12/07/2007

<http://www.act.at>. Last accessed 12/07/2007

<http://www.anpf.cit.act.edu.au>. Last accessed 12/07/2007

[http://www.bbc.co.uk/worldservice/learningenglish/newsenglish/witn/ram\\_files/wo04\\_1206.ram](http://www.bbc.co.uk/worldservice/learningenglish/newsenglish/witn/ram_files/wo04_1206.ram). Seoul. Last accessed 29/07/2004

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<http://www.faculdadepitagoras.com.br>. Last accessed 12/07/2007

<http://www.fcetm.br/etfg> last accessed 12/07/2007

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