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The development of distance education in Iran : with special reference to the planning and management of Payam-E-Noor University.

THE DEVELOPMENT OF DISTANCE EDUCATION IN IRAN

WITH SPECIAL REFERENCE TO

THE PLANNING AND MANAGEMENT

OF

PAYAM-E-NOOR UNIVERSITY

ISSA EBRAHIMZADEH

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ABSTRACT

According to the 1996 census Iran has a population of about 60 million with more than 7 million people in the higher education age group (18-24). About 1/3 of this group are seekers of higher education. For this reason Iranian policy makers and planners are engaged in exploring appropriate ways of providing higher education for this large and growing population, in a relatively short time and with constrained resources. The establishment of Payame Noor University as a distance education organisation in 1987 was a result of these efforts. In 1990, only three years after its establishment, PNU enrolled more students than any other state university in Iran, and it reached mega-university scale within seven years of its establishment. It is now among the twelve mega-universities of the world and is the largest state university in Iran.

This dissertation examines the evolution of distance education in Iran, based upon original fieldwork data collected as part of a detailed case study of PNU. It analyses the philosophical and theoretical underpinnings of PNU - given its mega-university status and declared enthusiasm for the industrialisation of teaching and learning - in the light of a framework derived from Peters' (1967, 1994) industrial theory. Specific attention is given to an evaluation of planning and management processes in operation at PNU from the industrial perspective, and with regard to an analytical framework derived from Hodgkinson (1991, 1996) and educational management models (bureaucratic, collegial, political and ambiguity) articulated by Bush (1994). The analysis identifies factors which have contributed to the development and evolution of distance education in Iran and examines how national macro policies and PNU's micro policies have influenced expansion.

The dissertation argues that the development of distance education in Iran is primarily motivated by issues of social demand, access, cost and human resource development. It is argued that external factors have had the most profound impact upon the development of the university. Conflict and problems are identified relating to policy making and implementation, the government and the university, and industrial, academic and administrative cultures. These issues, it is proposed, are to be expected of any new system which shares the characteristics of educational and industrial institutions.

In concluding the advantages and limitations of the industrial model of distance education are examined. It is further argued that the application of any theory as a framework for a distance education institution that has origins in a different cultural setting must take close account of the socio-cultural contexts of education in different types of historical civilisations. This process needs greater consideration in PNU and national ideo-political and socio-cultural perspectives must be more carefully taken into consideration if policy makers and planners attempt to adopt any more pre-existing models to the local context.

ACKNOWLEDGEMENTS

AUTHOR'S DECLARATION

I hereby confirm that the work presented in this dissertation is mine, and that it has not

been submitted for a degree or an award at any other university.

Signed .... Date .10..6..1997

IV

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ABBREVIATIONS

AAOU	Asian Association of Open Universities
ABU	Aburaihan Brooni University
BOB	Budget and Organisation Bureau
BT	Board of Trustees
CMC	Computer Mediated Communication
DE	Distance Education
DPI	Development Plan of Iran
EMC	Educational Media Centre
FUI	Free University of Iran
GPA	Grade Point Average
ICCE	International Council for Correspondence Education
ICDE	International Council for Distance Education
ICDL	International Centre for Distance Learning
IDB	Islamic Development Bank
IEC	International Extension College
IRIB	Islamic Republic of Iran Broadcasting
LM	Learning Materials
MCHE	Ministry of Culture and Higher Education
NEAO	National Educational Assessment Organisation
OAAE	Organisation of Administrative Affairs and Employment
PBO	Planning and Budget Organisation
PLLES	Persian Language and Literature for External Students
PNU	Payame Noor University
PPC	Printing and Publishing Centre
SCCR	Supreme Council of Cultural Revolution
UNESCO	United Nations Educational, Scientific, and Cultural Organisation

CHAPTER ONE

Introduction

Introduction

Higher education is assumed to have a great deal of potential to increase human resource quality, raising it to a point where it can initiate and sustain essential economic, social and cultural development. Accordingly, Iranian higher education policy makers have adopted two basic planning strategies: the expansion of existing universities and the establishment of new universities. In developing the latter strategy they decided to establish a distance education university under the name of Payame Noor University (PNU). This means the Message of Light. PNU's initial progress has shown that distance education holds great potential in Iran for the expansion of higher education opportunities to a wider range of people. A second attraction of distance education is that it is believed to be more cost-effective, allowing more places to be made available at less cost than conventional face-to-face provision. As the only higher level distance education institution in the country, the future of the PNU is important to the whole educational community in Iran.

This dissertation examines the development of distance education in Iran, focusing specifically upon the growth and evolution of PNU, and a critical analysis of its

planning and management strategies conducted with reference to an analytical framework derived from the relevant international literature.

Rationale for the Study

University level distance education has expanded rapidly throughout the world to meet unprecedented increases in the social demand for higher education. In Western countries distance education universities were often originally intended to help certain disadvantaged groups to take part in higher education. (See, for example, Holmberg, 1983; Sewart, et al. 1983; Keegan, 1993 and 1994).

In developing countries such as Iran the situation is even more critical. Iran is faced with many problems in providing higher education for those who seek it, and in training skilled and specialist manpower. This is the basic reason why the Ministry of Culture and Higher Education developed a distance education university as an alternative to conventional universities - in order to enhance the number of qualified specialists in many branches of the socio-economic system. At the same time, Iranian educational policy makers and planners intend to open up increased access to the professions for a wider section of the existing workforce in a short period of time, without students and employees having to be present on a full time basis at university. This system of education, it was argued, could provide more flexible educational opportunities and a more realistic basis for meeting the nation's needs.

In the first five years of PNU's operation, the number of its students increased so dramatically (from 8118 in 1987 to 66458 in 1992) that they made up a considerable percentage (approximately 25%) of all students in Iranian universities. Indeed, student enrolment now exceeds (160,000 in 1996) earning PNU the status of a mega-university (Daniel, 1995). The country's higher education experts thus now believe

that PNU has become a permanent part of national higher education. Distance education at PNU has, however, not to date, been studied formally and there are few other studies of university level distance education in Iran. There is therefore much we can learn from both the national and international experience that can contribute to the future of distance education in the country, and to the more general and theoretical literature on distance education itself. This study represents an attempt to contribute to the improvement of distance education within Iran by providing well grounded knowledge and insights for the future development of PNU. The research also aims to contribute to the critique and further development of theoretical ideas that have an influence upon the future of distance education systems beyond national boundaries. The study is important personally because my own experience from 1977 to 1993 in distance education in Iran provides an experiential foundation for the research. I was involved in distance education in the capacity of the Head of the Academic Office of the Correspondence College; Head of the Department of Education and Department of Guidance and Counselling in the School of Psychology and Education at Allameh Taba Tabai University; Vice-chancellor of Assessment and Student Affairs, Chancellor's Academic Adviser and Secretary of University Council at PNU. It will therefore be possible, in the future, for me to play a key role in the further development of distance education in my country.

Aims of the Study

The main aims of the study are as follows:

1. To critically review the international literature relating to theories and models of the planning and management of distance education with particular reference to Peters' (1994) Industrial Model;

2. to document the development of distance education in the higher education sector in Iran from an historical perspective;

3. to develop a detailed case study of PNU as a mega-university;

4. to conduct a critical analysis of the planning and management of PNU in the light of the related international literature;

5. to draw out implications from the study for the future improvement of distance education policy and practice in Iran;

6. to relate the findings of the PNU case study to the broader theoretical literature on distance education.

The case study itself documents the factors and processes which led to the establishment of PNU, and the elements and issues that continue to shape its development. It also examines the strategies that the PNU has adopted, in the light of the related international literature.

Research Questions

Five main questions arise from the rationale and aims of the study, and these provide the focus for the research:

1. What are the origins, assumptions, theoretical orientations and objectives of PNU?

2. How has the university developed and what are its main characteristics?

3. How have the planning and management strategies of the university developed and what are their strengths and limitations?

4. What lessons can be learnt from the PNU experience that have relevance for higher education policy and practice in Iran?

4

5. What can the PNU experience contribute to the international and theoretical literature on distance education?

The broad research questions provide the basic structure for a more detailed fieldwork interview schedule for use with key informants adapted from case study questions developed by the International Extension College (IEC) (Dodds and Mayo, 1992). These detailed questions are presented in Appendix 1. The adoption of this schedule facilitates comparisons between the PNU and other case studies carried out by IEC personnel.

Theoretical Literature and Analytical Framework

Searching the ever increasing literature on distance education and selecting key sources as a main reference point was a challenging task. The development of such a substantial body of literature on distance education in less than twenty years is a significant indicator of the field's importance in itself. To structure the review, materials were classified into two main categories related to the aims of the study: 1. theoretical perspectives on distance education; 2. the planning and management of distance education. Key references then formed the core of a critical review initially focused upon the concepts, definitions, theories and the planning and management of distance education. In particular, Sewart et al's (1983) work on international perspectives in distance education, Keegan's (1980, 1993 and 1994) works on definitions, theory and practice and Daniel's (1995) work on Mega-universities were adopted as main reference points for scholarship.

Many different definitions of distance education are reviewed in chapter two but more specific attention is given to the characteristic features of distance education. How far

does it differ from other mediated forms of teaching-learning methods? Is distance education an innovative method of teaching-learning or a new system of education? Those definitions considered are therefore categorised into two different groups: definitions which were proposed by those who identify distance education as an innovatory method of teaching-learning, and definitions proposed by those who deal with distance education as a new system of education. This analysis leads on to the distinction between distance education and concepts such as correspondence education, independent study and open learning.

Industrial Theory

Further analysis was enhanced by reviewing three well known theories of distance education, namely autonomy and independence theory, interaction and communication theory, and industrial theory. While the first two theories are helpful in understanding distance education systems, the third perspective was seen to be especially useful as a theoretical framework for the detailed analysis of PNU - given its mega-university status and declared enthusiasm for the industrialisation of teaching and learning. Indeed, there are considerable similarities between the operating systems of PNU and other mega-universities and industrial organisations in terms of mass production (of graduates and of study materials), division of labour, the assembly line, the application of technology etc. The principles of industrialisation strategies are often applied in both the teaching-learning process and the administrative operations of these very large universities. For these reasons Peters' (1994) industrial theory was seen to provide the most appropriate framework for the analysis of the theoretical underpinnings of PNU, and for developing improved understanding of its functions and problems as a mega-university. The framework itself is outlined in Chapter Two,

but at this stage it should be noted that Peters' arguments implicitly underline the fact that distance education must be carefully pre-planned, prepared and organised, and that there is much division of labour, a growing array of technology to work with, and the necessity for formalised evaluations. He therefore states that:

> People become aware that these and other features of distance study are structurally the same as those that can be found in an industrialised production process. Explicitly, these ideas are expressed by using the image of a teacher in the classroom working like a craftsman, as opposed to a teacher being a part of a complicated teaching-learning system organised like an industrialised process. The catch-phrase 'industrialised form of instruction' helps to recognise structural elements which are typical in distance study (Peters, 1994: 216-217).

Although the multiple roles and industrial features of distance education make it very sophisticated and more complex than conventional educational provision, the potential of distance education to ensure cost effective higher education on a large scale remains one of its great advantages. This in turn, generates a process of educational administration that requires administrative skills that are akin to those of an industrial enterprise (Keegan, 1986).

Management Theory

The critical review of existing literature extends in Chapter Three to give more specific attention to models of planning and management related to distance education. In this respect Rumble's (1986) book on the planning and management of distance education, Paul's (1990) material on the management of open universities, Hodgkinson's (1991) work on educational leadership, and Bush's (1986 and 1994) books on theory and practice in educational management are adopted as main references, along with other related journal articles. These sources help to elicit the perceptions and perspectives of those involved more closely in educational

management in general, and in the planning and management of distance education in particular.

In the light of the literature reviewed it became clear that many writers are seeking ways of enhancing the systematic, and theoretically grounded, planning and management of distance education. In doing so, they have suggested key models for planning and management. These models are also classified into two categories: **a)** models of distance education as a teaching-learning method and **b)** as a broader system of education. Consideration of these models yielded insights for drawing out more general principles for the planning and management of distance education. Given the focus of the present study, and the limitations of the relevant distance education material, it was decided to consider related literature in the more general field of educational management. Models of management, including the bureaucratic, collegial, political, and ambiguity models were, therefore, critically reviewed, to help establish an overarching framework for analysis of distance education universities' management processes. In doing so, it became apparent that Hodgkinson (1991) provides a useful framework for the analysis of the management of any educational institution, and this can also be applied for analysing the complicated management of distance education institutions. Two theoretical frameworks (Peters, 1994 and Hodgkinson, 1991) are therefore adopted in this study - with Hodgkinson's drawing attention to the close relationship between policy making and policy implementation; the major conceptual and analytical concepts around which the study is organised.

While a central function of any educational system is to ensure that students are taught according to a curriculum, distance education systems also have another function, that is the preparation, production and distribution of learning materials. This means that

distance education institutions have two core characteristics: academic and material production (manufacturing). It is therefore argued that distance education universities almost uniquely represent the tendencies of two orientations - the professional autonomy of university academics and the bureaucratic demands of large publishing houses and service organisations. The inherent conflict between these two features has major implications for how such universities can be managed (Paul, 1990: 30). These issues indicate that the nature of distance education requires simultaneous attention to the planning and management of both academic and manufacturing missions.

Hodgkinson's Analytical Framework

Hodgkinson's (1991) model as shown in figure 1.1 was found to be especially helpful for the PNU study - and in keeping with the dissertation's aims and rationale. Again, the detailed theoretical discussion follows in Chapter Three but here it is pertinent to provide a basic outline of core concepts only.

In this model leadership, which is vital for success of any institution, is a key concept 'encompassing both administration and management' (Burns, 1978:2). Hence, leadership involves both policy making and policy implementation and brings the components of the organisation together to ensure the effective functioning and support structure for students and faculty alike. Philosophy is seen by Hodgkinson as the first stage in the dynamic process of policy making, and leadership is, in fact, 'philosophy-in-action' (Hodgkinson, 1983). Here philosophy means organisational values, its theoretical framework and reasons for being. At the top level of administration, the vision and mission of the organisation is formulated by philosophical means such as imagination, intuition, hypothesis, argument, dialectic, logic, value analysis and clarification.

Figure 1.1 Hodgkinson's Model of Leadership
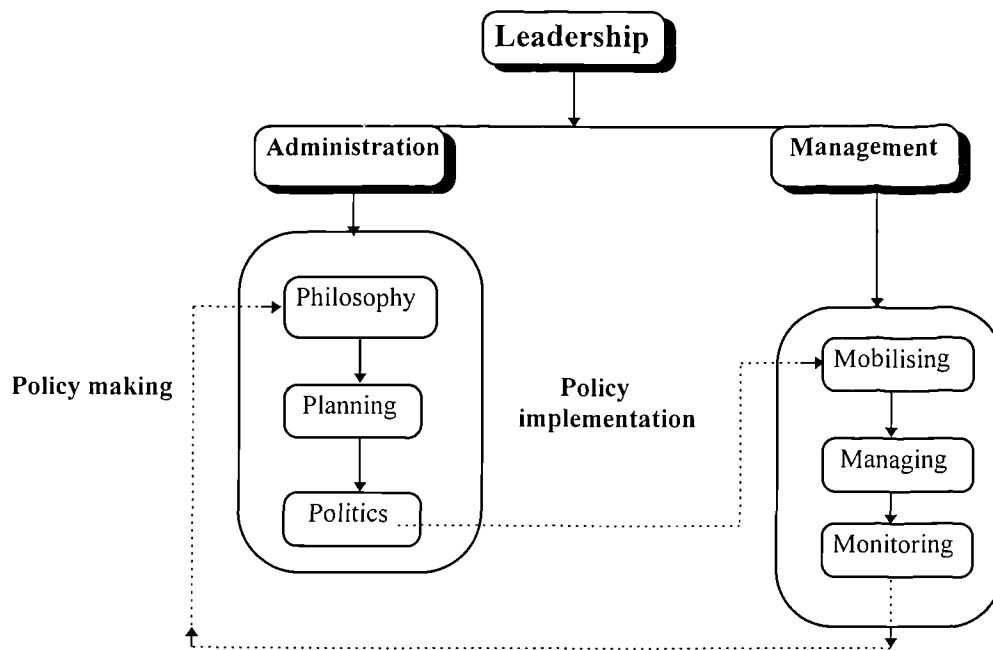
(Adapted from Hodgkinson, 1991)

Following this stage of the model, in this study PNU's original assumptions and philosophies are first analysed in the light of industrialisation theory to document the theoretical underpinnings and organisational strategies of the university. The research then continues to analyse PNU in the light of Hodgkinson's subsequent stages. The second stage, Hodgkinson believes, is bringing the philosophy into action. Planning is preparation for action. Politics is the final stage of policy making in this model. Politics here relates to the choice of appropriate strategies and the allocation of necessary resources to realise the plan. It is the task of management to bring these politics into the managerial stage by mobilising them. This is, in fact, policy implementation which can be evaluated by monitoring the whole function of an organisation. Through monitoring, managers evaluate the performance of various functions of the institution. In addition, as already indicated, the management

processes of PNU are analysed with reference to four of Bush's (1994) management theories.

Research Design

A research design is at best a compromise between the aims of the study, the resources available and the feasibility of the area of study. This research design, is adapted from a model provided by Yin (1994), and further structured by reference to industrial theory and the policy making and implementation components, featured in Hodgkinson's (1991) model (figure 1.1) as applied to the PNU. The research design is presented in diagrammatic form in figure 4.1 (Chapter 4). Considerable effort was made to make this design as clear and realisable as possible.

Research Process

The research process as shown in figure 4.1 included three distinct phases: pre-fieldwork, fieldwork and post-fieldwork. The details about each of these phases and the methodological issues faced during each phase are discussed in Chapter Four, along with a consideration of how serious research problems were dealt with in practice.

Methodology

Selecting specific research strategies, epistemologies and methods from many, each of which can reveal something different about the phenomenon under study, is a challenging issue. Hammersley (1992:196) thus states that:

> It is not fruitful to think of social research method in terms of contrasting approaches, each involving a comprehensive and harmoniously integrated range of components all the way from epistemological assumptions right through the specific research techniques. The methodological decisions we face in social research are more complex than this.

It is argued here that methodological decisions depend upon what the researcher wants to know, how the problem is defined, the goals and circumstances of the research, and above all the nature of the phenomenon under study. In developing every research strategy something will inevitably be gained and something sacrificed. One can only weigh up each strategies' benefits against their limitations and select accordingly. As Merriam (1988:3) has pointed out:

> Naturalistic inquiry, which focuses on meaning in context, requires a data collection instrument sensitive to underlying meaning when gathering and interpreting data. Humans are best suited for this task- and best when using methods that make use of human sensibilities such as qualitative interviewing, observing, and analysing. Nonprobability forms of sampling, are consistent with the goals and assumptions of [the case study] paradigm as are specific ways of ensuring for validity and reliability.

Case Study and Qualitative Research

Since a main goal of this study involves the documentation and interpretation of PNU's mission, and the analysis of its planning and management processes and theoretical underpinnings, a largely qualitative case study strategy was developed. Case study research, it is argued, is ideal for understanding and interpreting, educational phenomena. Case studies are also judged to be a most important way to assemble information relating to the design, implementation, and impact of educational programmes. Dodds and Mayo (1992:5) argue that:

> ... case studies can address questions of great interest to planners and administrators. Why and for whom were particular initiatives taken, how were such initiatives implemented; at what cost; and with what result? The answers to such questions can assist decision makers to improve both the performance of existing programmes and the design of new ones.

Apart from these reasons, the uniqueness of the present subject of study and the nature of the research questions made the case study a preferred strategy for collecting varied data and documenting the institutional aspects of PNU with regard to the political,

economic and cultural forces that have modelled it over time. A detailed methodological rationale is given in Chapter Four but it should be noted here that this case study of PNU applies three main methods: 1) in-depth interview 2) document. analysis 3) observation.

In-depth Interviews

One of the principal research traditions of the case study is the gathering of oral evidence by interview. To portray insiders' views about policy making and policy implementation at PNU, and for the collection of more basic and first hand data, in-depth interviews were applied. Interview sessions were arranged with key informants to gather data, firstly about policy making at PNU. These main informants who were selected by judgmental sampling included the Minister of Culture and Higher Education, PNU's Chancellor, Vice-chancellor of Academic Affairs, Vice-chancellor of Assessment and Student Affairs, Vice-chancellor of Research, Vice-chancellor of Finance and Administration (see Appendix 2). There was a plan to interview other influential and knowledgeable people such as former chancellor and vice-chancellors of PNU if they were accessible. In practice I could interview only one previous vice-chancellor of the university. Interviews were subsequently continued with regard to policy implementation. As well as this, the General Directors of the Educational Planning and Curriculum Bureau, Student Evaluation and Academic Services, the Production of Learning Materials, Print and Publishing Centre and the Manager of the International Collaboration Office were interviewed. Appendix 2 gives detailed information about the focus of specific interviews drawn up to match informants with relevant topics related to their experience. The match was made on the basis of the informants' special knowledge of the particular topic(s) and the nature of their

involvement with PNU or with national higher education in general. From this interview guide relevant questions that were compiled previously, and presented in Appendix 1, were used as an agenda or aid-memoir during the interviews. From that pool, individual agendas were prepared for each interviewee covering the issues to be discussed during each session.

Document Analysis

Document analysis was another key method adopted for analysing the history of distance education in Iran in general, and the background of PNU in particular. In this respect, an effort was made to use accessible national and institutional documents. Concerning the first group, access was gained to the Iranian Third and Fourth National Development Planning documents in the higher education section before the revolution and, to higher education documents of the First and Second Cultural and Socio-economic Development Planning Phase of Iran after the revolution. National and provincial educational Journals and other general local newspapers and publications concerned with the field of distance education were also examined. Related to the second group, the documents mentioned below were of specific value:

- minutes of the meetings of the University Council;

- minutes of the meetings of the University Administrative Council;

- minutes of the annual meeting of regional study centre Principals;

- documents for university planning;

- documents relating to university budget and financing, and finally;

- all other information and statistical documents of PNU related to the study.

Observation and Reflection on Experiential Knowledge

Triangulation is considered as a strength in much social research. For this purpose, observation methods were also applied both to gain further information about specific contexts, and to strengthen the broad picture and generate more reliable conclusions. As Hammersley and Atkinson (1989:199) point out:

> ...what is involved in triangulation is not the combination of different kinds of data per se, but rather an attempt to relate different sorts of data in such a way to counteract various possible threats to the validity of our analysis.

In this study, unstructured observation was used to collect supplementary data that help qualify and interpret other sources. This was particularly 'suitable for the study of managerial meetings which regularly bring together the same group of people' (Johnson, 1994;54). I was able to attend four such meetings (Meetings of the Administrative Council, Regional Study Centre Principals, Vice-chancellors of the University and the International Collaboration Committee) during fieldwork in 1995. The researcher's previous experiential knowledge at PNU, and in other distance education institutions in the country, provided a great opportunity for enhanced understanding of the informants and for general observation around the university. This knowledge also helped to identify which documents were suitable for study and how they could be accessed, when and where the data could be collected, and above all how the data could be validated. During the course of the research, notes on the circumstances and content of the meetings were made. In other words, it can be said that this study had many insider researcher advantages (Louisy, in Crossley, and Vulliamy, 1997).

The Fieldwork Report and Emergent Themes

The ordering and categorising of the data collected was carried out both in the field and following my return to the UK. One important point here was the decision about the timing and form of analysis applied to the collected data. If this work was left totally until after the fieldwork had been done, it might be found that some vital questions for the analysis had not been asked. As recommended elsewhere (Burgess, 1988; Merriam, 1988; Johnson, 1994) in order to avoid the danger of making disproportionate use of the more striking or memorable research material and neglecting to balance this with other apparently humdrum data, all research materials, however collected, were recorded. Firstly, they were classified into the two broad categories relating to policy making or policy implementation derived from Hodgkinson. Then each of these data sets were allocated sub-categories based on more detailed questions and themes emerging from the fieldwork. For example, a most prominent theme to emerge from the data relates to the conflict between the unique socio-political context of Iran and the complex organisational culture necessary for a rapidly growing mega-university.

Anticipated Problems

Prior to undertaking the fieldwork a number of basic problems were anticipated. These included possible difficulties in securing the agreement of informants' co-operation, the dangers of over-familiarity with the case under study, the impact of the previous relationship of the researcher upon the informants and, potential problems relating to the presentation and interpretation of critical data in an Islamic context. The ways in which each of these problems were dealt with are also discussed in detail in Chapter Four.

Significance of the Study

A study of the only distance education university in Iran (PNU) designed to reveal the perceptions, perspectives and problems of policy makers and planners has much to offer the international distance education community eager to learn about the experiences of rare mega-universities. Daniel, (1995) has recently popularised the concept of the mega-university and while his publication draws attention to the achievements and problems of such universities, PNU is not represented in his review.

Moreover, this case study helps to 'test' Peters' (1994) industrial theory in action, in one mega-university in an Islamic country. In this respect it is argued that the study makes an original and challenging contribution distance education theory and to Iranian studies.

In documenting the development of PNU, and its planning and management processes, the research makes a further contribution to the existing literature about the management of distance education in Iran from which policy makers and planners both within the country, and in the wider international community, can draw to inform improved policy making and policy implementation.

Structure of the Study

Distance education as a subject of specialist study has only appeared in the recent decades on the international agenda. In Chapter Two the study begins with a brief history of distance education and a critical review of the international literature on concepts, definitions and theories. This is followed in Chapter Three by a review of the literature on models of planning and management in distance education.

Arguments for adopting a largely qualitative, case study approach, and the research strategies and techniques associated with it, are presented in Chapter Four.

The need for a clear understanding of the economic and socio-cultural background of the setting under study provides the rationale for Chapter Five, which examines the context within which distance education in Iran has developed. The detailed description and history of PNU is presented here in a framework derived from the characteristics of Peters' (1994) industrial model. The more analytical part of the case study is then presented in Chapter Six with reference to Peters' industrial theory and to Hodgkinson's analytical model. In Chapters Five and Six, the first three broad questions of the research are therefore addressed.

The final chapter deals with the last two research questions and considers the practical and theoretical lessons which can be learned from the study for the future of distance education in Iran, for the international literature on distance education and for our understanding of mega-universities and management in this specialist field.

CHAPTER TWO

Distance Education Concepts and Theories

Introduction

Distance education has expanded dramatically around the world during the last two decades. This is in response to a variety of demands for education in general, and for higher education in particular, which exerts pressures on political systems. Even though conventional education systems have expanded enormously, these are often unable to meet social demand. Since resources are limited in many countries, a massive expansion of those systems is not possible. In addition conventional systems suffer from certain rigidities which prevent some sections of society from gaining access. This raises the question of inequality of educational opportunities. In many developing countries it has been found that expansion has led to the dilution of educational standards, resulting in problems of low quality. Thus the twin concerns of the policy makers in these countries are: providing wider opportunities and maintaining the quality of education. It is in this context that distance education is seen to be an effective alternative, that is, potentially, within the reach of anyone who wants to have access to it (Perraton, 1982).

This chapter, briefly reviews the history of distance education and considers its development relating specifically to Peters' (1967, 1994) work on Industrial Theory.

Key concepts are discussed and distance education is defined with reference to its main characteristics. Consideration is also given to how theories of distance education are reflected in administration and management processes, and in the various administrative models adopted.

Historical Perspectives on Distance Education

Distance education is a fairly new term that has only gradually become accepted. A kind of formal recognition occurred in 1982 when the International Council for Correspondence Education (ICCE) changed its name into the International Council for Distance Education (ICDE). This change of name illustrates the fact that the basic origin of distance education is in the field of correspondence education, known and practised since at least the latter part of the Nineteenth Century (Holmberg, 1986).

In the Nineteenth Century correspondence education was developed primarily for commercial or altruistic reasons to provide alternative access to formal education and training. It was made possible by the development of cheap and reliable postal services, improved printing, and the general advances in learning reflected in book publishing, the foundation of libraries, the development of charity schools, debating societies, scientific clubs, working men's colleges and institutes, all of which made the emergence of home study practicable and desirable.

The first correspondence programme was started in the United Kingdom in 1840 by Isaac Pitman to teach shorthand (Rumble, 1986). As the 19th century drew towards its close a number of universities began to establish departments to teach students by correspondence, and by the end of the century correspondence education was widely practised, and accepted to a greater or lesser extent as a valid means of studying. This acceptance paved the way for developments in the twentieth century.

In the years that followed further correspondence schools and colleges were established by private individuals who were motivated by a mixture of altruism and commercial acumen. The fact that some of those who set them up were motivated more by a desire to make money than a desire to teach led, from the early twentieth century, to the establishment of bodies designed to accredit and regularise the activities of correspondence schools and colleges. Among these were the US National University Extension Association (established in 1915), the US National Home Study Council (1926) and the Association of British Correspondence College (1955).

Distance Education and National Education Systems

The Twentieth Century has seen further growth in the commercial correspondence sector as well as in the adoption of correspondence and distance teaching systems by professional associations (e. g. The American Association of Medical Record Librarians, etc.) and latterly, for in service training purposes within large companies (e. g. British Telecom), and in-service teacher training within both developed and developing countries. It has also been marked by diversification away from reliance upon the traditional media used in correspondence courses (notably printed lessons and question papers, and written assignments from students which are marked by tutors) to incorporate other media, including broadcasting, audio-visual materials and computers.

Since the 1970s distance education has thus emerged as a valued component of many national education systems in both developed and developing countries. The creation of a large number of distance education universities throughout the world is a clear example of the extent to which distance education has been successfully integrated

into national systems. This success ensured that, sooner or later, distance education would be adopted as an instrument of state education policy. Australia was the first country to do this on a large scale to meet the needs of a dispersed population of school-aged children. It was followed by the massive expansion of correspondence education in the former Soviet Union, and the People's Republic of China.

It is not the aim of this study to provide a detailed history of the development of distance education world-wide. What is interesting here are the underlying factors that have led to the adoption of distance education as an instrument of national education policy: the pursuit of egalitarianism, modernisation theories, rural development and community education strategies, continuing education and the need for increased training in many professional contexts.

In the early part of this century distance education most interested those governments which were faced by the problem of educating a population scattered over vast distance, and it continues to be recognised as a means of overcoming the problem of providing educational opportunities to those who are socially, economically and geographically disadvantaged. For example, one of the most important objectives of PNU in Iran, is the provision of higher education for those who are in remote and deprived areas of the country; while those of the Costa Rican Universidad Estatal a Distancia suggest that the university will provide a solution to the problems facing the agricultural and working population who have the ability to enter a university but who, for economic, social or geographical reasons could not enrol in the existing universities (Rumble, 1986:49). Distance education can also serve the needs of housewives, particularly in Islamic countries, and those who are kept at home, for instance sick or handicapped persons, and long term prisoners.

At the higher education level in Iran, for example, PNU was established in part to help meet a vast demand for university education which could not otherwise be met. The Allamah Iqbal Open University in Pakistan, similarly, has as one of its objectives the provision of facilities to the masses for their educational uplift (Asian Association of Open Universities AAOU, 1989).

In reviewing international experience, Holmberg (1986) argues that the reasons for founding distance education universities and incorporating them into national education policy are mainly:

- the need felt in many countries to increase the availability of university education generally;

- realisation that adult people with jobs, family and social commitments constituted a large group of prospective part-time university students;

- a wish to serve both individuals and society by offering study opportunities to adults, among them disadvantaged groups;

- the need to provide in many professions with further training at an advanced level;

- a wish to support educational innovation;

- a belief in the feasibility of an economical use of educational resources by mediated teaching.

The latter probably was - and still is - the main reason for the establishment of much distance education, in addition to the need to respond to the daily increasing demand for university education in developing countries. Furthermore, distance education's potential makes it attractive for educational planners and policy makers, although the effectiveness of distance education in the cognitive domain is seldom challenged.

Since distance education has often been regarded as a product of the industrialisation era, and as an industrial form of education, there is a tendency among distance education practitioners to identify a historical relationship between industrial evolution and the development of distance education systems. These views relate in part to the different types of distance education systems and provide a useful typology which can be helpful in the comparative analysis of these systems in developed and developing countries. Academic teaching alone seems to have remained largely unscathed by industrialisation -with the exception of distance education (Peters 1994). This form of education has, from the start, had a special relationship with industrial principles and has tended to conform with the industrial production process. Keegan (1990:74) asserts that:

> All forms of human life have been heavily influenced by the industrial revolution. Only traditional forms of education in schools, colleges and universities have remained outside it - except for the phenomenon of education at a distance.

Peters (1967) gives this as the reason why distance education cannot be analysed in the same terms as conventional education. If this is the case then any change in the industrialisation process may change the process of distance education. Hence, to consider the relationship between industrialisation and distance education, the historical development of the economic and educational system must be analysed (Farnes, 1993). It is argued that the factors leading to the adoption of particular industrial methods may lead to similar methods being applied to distance education. Broadly speaking, there were two distinct periods in terms of the industrialisation of production process: pre-industrial and industrial.

The pre-industrial mode of production is the symbol of the old era. The work process in this era was initially characterised by the individual craft production, the use of

simple tools and craftsmen's trade. In this period craft methods of teaching-learning were used by teachers with personal interaction between teacher and the elite body of students. They were the knowledge craftsmen who had noticeable autonomy over what was taught.

The industrial mode of production is the symbol of a new era. In this period individual work, as was traditional in the craftsmen's trades, changed at an early stage to a production based on the division of labour and later to the development of assembly line and mass production. The use of simple tools was increasingly restructured by mechanisation and later, automation (Peters, 1967). The industrial era itself is characterised by three different periods, namely pre-Fordist, Fordist and post-Fordist (Badham and Mathews, 1989), each of which represent different modes of production even though over time they exist in varying proportions. It is argued that comparing the modes of production with the various generations of distance education provides a useful view of their shared characteristics and possible futures (Farnes, 1993)

First Generation Distance Education (the pre-Fordist mode)
The pre-Fordist mode of industrialisation was characterised by the factory system, involving large numbers of workers in unskilled jobs with little responsibility and repetitive processes. The need for some skilled and educated craftsmen, managers and professionals grew but the proportion was still small.

The first generation of distance education was born in this period of industrialisation. The advantages of rapid postal services and the network of railways gave rise to the proliferation of correspondence education as the first generation of distance education. This was basically a single media teaching-learning method. The production of study materials in this mode was in Farnes' (1993) words, 'something of a cottage industry'.

The arrival of radio created another basis for the development of this generation, but it remained mainly reliant on printed materials and, occasionally, local meetings. These courses were not subject to standardised examinations.

Second Generation Distance Education (the Fordist mode)

Industrial production shifted from mechanisation to automation in the Fordist period. The level of technology and productivity improved. This improvement led to mass production and mass consumption which in turn brought about standardisation of products. Collinicos (1989:134) describes Fordism as:

> ...the large-scale use of dedicated machinery suitable only for a particular model; the Taylorist 'scientific management' of labour, and flowline assembly of product.

The division of labour and breaking the work process down into a number of simple operations made the production of complex products possible. Many of these complex products helped deal with basic chores and opened up new opportunities for leisure and learning.

Similarly, as the demand for education increased, the number of schools rose and the teaching-learning process was divided up between a range of teachers specialising in different subjects and levels.

Regarding the development of mass higher education Sewart (1990) explains that students are processed by different specialists as if they are raw material on a production line. He states:

> We have seen then, in mass higher education, an assembly line approach in which the product representing studentship is assembled by a number of specialists, many in narrow academic disciplines but some also in 'supports areas' which are at least as critical to the attainment of the final objective of successful completion of undergraduate studies. Mass higher education has acquired the characteristics and management approaches of large scale industry (Sewart, 1990:6).

The second generation of distance education uses a combination of multi-media, correspondence and face-to-face approaches. While such systems exemplify the Fordist mode of industrialisation, some aspects of their functions come closer to the pre-Fordist model of production. Second generation distance education, as explained by Nipper is:

> ... multi-media distance teaching, and has been developed since the late 1960s, integrating the use of print with broadcast media, cassettes and - to some degree - computers. Feedback processes are very similar to those of 'first generation' systems but include telephone counselling and some face-to-face tutorials. The main objectives of the first and second generation systems have been the production and distribution of teaching-learning material to learners (Nipper, 1989:63).

This second generation distance education is described by Peters (1967) as an industrial mode of education.

Third Generation Distance Education (the post-Fordist mode)

Flexibility, greater variety of products and services, greater choice for consumers, advanced and diversified technology, and automation characterise the post-Fordist mode of industrialisation.

> ... post-Fordism is consumption-led. Computer-based distribution systems allow retailers to avoid overstocking that was one of the main problems of Fordism; it also makes possible the targeting of products on specific groups of consumers... New technology - such as flexible manufacturing systems- no longer needs to be dedicated to a particular model and can be adapted to a variety of different purposes... The new methods no longer require the mass of semi-skilled machine minders of Fordism, but a smaller multi-skilled core workforce (Callinicos, 1989:134).

Flexibility, the main feature of the post-Fordist mode, also characterises third generation distance education. It is possible that a post-Fordist system of mass higher education will emerge where students can study in mixed mode by taking some courses taught face-to-face, perhaps supported by open learning materials or franchised to a college, as well as through distance taught courses from the same or

different institutions. Students might study in different modes, that is to say they could

transfer their courses from distance mode to conventional and switch from part time to

a period of full-time study and vice versa. For example, there is a flexible rule in Iran

to give an opportunity to the students of conventional universities to take some

courses from PNU at a distance and for PNU's students to take some courses taught

face-to-face at conventional universities.

Third generation distance education, as Rumble (1989) describes it, moves away from

the capital intensive (and costly) development of mass-produced instructional

materials, towards replacement by bought-in materials acquired at much lower cost.

He further explains that:

> The savings generated could be used to teach and counsel students through
> CMC [computer mediated communication] systems ... [with the adoption of
> CMC] there should be more scope for personal involvement on the part of
> students in the development of personally meaningful projects ... greater
> autonomy in the choice of routes toward the achievement of learning objectives,
> and more discussion and real interactive dialogue in the process. ... The role of
> academics would change again, becoming closer to the traditional role of
> academics in conventional universities, but with a subtle and important
> difference: they would be conference moderators and personal advisors, not
> lecturers and seminar leaders (Rumble, 1989:248 cited in Farnes, 1992).

According to Rumble (1989: 248) 'we are on the threshold of the third generation

distance education systems combining access to mass-produced information with real

interactive communication'. We may be able to develop post-Fordist third generation

distance education which emphasises 'a more decentralised, democratic, participatory,

open and flexible' (Campion, 1990:59) system with a high level of teacher and student

responsibility. Farnes (1992:15) notes that:

> In [western] society generally post-Fordist modes of production and
> consumption are becoming more widespread but many people are excluded or
> participate only on the periphery. Similarly in education only a small proportion
> of adults enjoy flexible teaching and learning, while increasingly large numbers
> receive only limited or no training which restricts their autonomy.

Table 2.1 summarises the relationship between modes of production and stages of distance education.

Table 2.1 The Modes of Production and the Corresponding Stage of Distance Education

Mode of production	Stages of distance educational development
Pre-industrial	Pre-distance education, independent learning form books
Industrial, pre-Fordist	First generation single media DE
Fordist	Second generation multi-media DE
Post-Fordist	Third generation computer-based open and DE, networks of opportunity

Adapted from Farnes, 1992

Mega-universities

The development of distance education is described above with reference to its history, the technologies it has used and the pedagogical situations it creates. This provides a useful basis for reviewing the nature and status of some of the largest distance education universities that have enrolled over 100,000 students and have recently been named mega-universities (Daniel, 1995).

Mega-universities are, to a large extent, the product of technological development, the use of technology in the teaching-learning process and the industrialisation of education. The policies of widening access to higher education, the availability of public TV and radio, the use of telecommunication technology and the enrichment of correspondence education by the integration of other media have allowed distance education universities to expand their organisations and enrol a maximal number of students in their various programmes of study in various disciplines (Daniel, 1995). The size of the student body in these kinds of universities became, therefore, the most important criterion for distinguishing mega-universities from other distance education universities.

Daniel (1995:15) defines a mega-university as 'a distance-teaching-institution that has over 100,000 active students each year in tertiary education courses.' This definition includes three basic criteria: distance teaching, higher education and size. These criteria which are restrictive rather than distinctive can be helpful in the grouping of some distance education universities together that individually and collectively have achieved a double breakthrough. By simultaneously increasing the number of students dramatically, and lowering costs sharply, they have created a rare discontinuity in the evolution of higher education. Daniel (1995:15) argues that :

> The change they have introduced is of kind rather than degree. Crucially this development could help to satisfy some of the burgeoning demand for tertiary education in the next century at a cost that individuals and governments can afford.

PNU in Iran met these criteria in the academic year of 1994-95.

Definitions of Distance Education

As already noted after the creation of the name of the ICDE, there were still doubts about using the term distance education instead of correspondence education. Distance education was therefore used by many as synonymous with modern correspondence education.

The reason why the term distance education has come into more general contemporary use is that the word correspondence is felt to be associated exclusively with written materials, whereas audio-visual means and often radio, TV, computer, telephone communication and other media nowadays supplement the written materials in what is accepted as distance education. The interpretation of the Association of British Correspondence Colleges (Keegan, 1980), thus reserves the term correspondence education for study which relies entirely on printed courses and communication in writing.

Distance education is thus a term that has gradually become recognised as a broader concept than correspondence education and is seen as learning supported by: 'those teaching methods in which because of the physical separateness of learners and teachers, the interactive, as well as the pre-active phase of teaching, is conducted through print, mechanical, or electronic devices' (Moore, 1975:4).

Sometimes, particularly in the USA, "independent study" is used as a synonym. Wedmeyer (1981) claims that independent study, a term now used in the USA as generic for the several kinds of distance education and non-traditional learning systems that include correspondence study, is more precise than distance education. In addition, this term has significance with respect to learning theory, and has historic continuity in the USA. However, the term distance education represents not only the teaching process but also learning, and has potential in that it can be considered a wider, more inclusive term, for example as an educational system rather than only as a method in the teaching and learning process.

Problems in defining distance education

Since there are various disagreements over the concept of distance education, there are also a number of problems in attempting to define it. It is certainly not restricted to the notion of mere geographical distance from the main campus or regional study centres. Although, initially, distance methods may have arisen in some countries because of students' difficulties in travelling to conventional institutions, it would be acceptable to say now that distance in the physical sense is not a major necessary defining feature of this form of educational provision. Indeed, a high proportion of students enrolled in distance education institutions live in densely populated urban areas close to the physical location of these institutions. It is clear that the use of the

term 'distance' in this sense indicates the nature and degree of separation of teachers and learners in the educational process. That is what is proposed by Moore (1983) in the expression 'transactional distance'.

However, the use of Moore's expression may give rise to other problems; for example the bringing in of other concepts like self-directed programmes and individual tutorial programmes. Rumble makes a useful observation about this problem by arguing that:

> ...using these dimensions [distance] the most distant programme would be one in which there was neither dialogue nor structure - an example would be a wholly self-directed programme of individual reading. At the other end of the continuum, the least distant programme would be one in which there is a high level of dialogue, with little pre-determined structure, -for example, an individually tailored tutorial programme. Most of what are commonly called distance education programmes fall somewhere between these two extremes - they have a measure of dialogue, as well as being more or less highly structured (Rumble, 1986:8).

A further factor which deserves attention is the great diversity of practices, systems and projects that are commonly covered by the term distance education. Granted, all of them have their defining elements. The many forms of distance education as it is now known have evolved from a wide variety of different sources. In some, where the traditional correspondence colleges have remained strong for a hundred years, they still have their basic models (postal tuition combined with printed or cyclostyled course materials), which have often been adopted relatively unchanged by many publicly financed institutions. In others where, notably in Latin America, radio broadcasting organisations were among the pioneers of distance education, this is reflected in the structure of many current systems where there is less emphasis on print and individual correspondence teaching and more on locally organised listening groups.

Thus, the problem in trying to give a comprehensive definition of distance education lies in identifying the common features of different institutions that range from correspondence based institutions to universities using communication technology to reach distance students.

Similarities and differences

Some specialists believe that consideration of the similarities and/or differences in various kinds of distance education systems, and differences between distance education and conventional education, can help us to identify the main elements or characteristics of distance education and so reach an acceptable definition. Others prefer to consider its nature as a teaching-learning process.

Consideration of differences is useful in getting at what distance education is not. This means that making distinctions between what is called distance education and what is not, is necessary for definition. For instance, Peters (1973) uses this method in an attempt to define the relationship between teacher and taught in distance education. He characterises this relationship as being controlled by technological rules (and not social norms as in face-to-face teaching), maintained by emotion-free language (and not interactional speech), based on a limited possibility of analysing students' needs and giving them direction (not on expectations built on personal contact), and achieving its goal by efficiency (and not through personal interaction). On the other hand, there are many forms of what may be considered the opposite of conventional or face-to-face education that are not distance education, such as: education by letter, printed education, teaching kits, audio-visual aids, radio and television, programmed learning, private study and computer-based study.

All of these are recognised as indirect informal education and each of them (as will be shown later) lacks one or more of the main characteristics of distance education. On the other hand there are certain forms of education which have some similarities to distance education that are not identical with it, such as: independent study, open learning, off-campus studies, extension programmes, university without walls, experimental and the external degree.

These distinctions and similarities merit attention because of their importance in the definition of what is excluded and what is included.

What distance education is

Although there are many different ways to answer this question, it is preferred to do this by description of the nature of distance education. Is distance education a different method of teaching or learning or both? Is it an educational system that encompasses all of the process of education? There is no general agreement.

Some specialists identify it as an innovatory method of teaching from the teacher's point of view; and of learning or studying from the student's point of view. For example:

> Distance education may be defined as the family of instructional methods in which the teaching behaviours are executed apart from the learning behaviours, including those that in a contiguous situation would be performed in the learners' presence, so that communication between the teacher and the learner must be facilitated by print, electronic, mechanical or other devices (Moore, 1973);

> Distance education is the various form of study at all levels which either does not imply the physical presence of the teacher appointed to dispense it in that place where it is received or in which the teacher is present only in occasion or for selected tasks(Keegan 1980);

> The term distance education covers the various forms of study which are not under the continuous, immediate supervision of tutors present with their students in lecture rooms on the same premises, but which, nevertheless, benefit from the planning, guidance and tuition of a tutorial organisation (Holmberg 1981);

Distance education is learning while at a distance from ones' teacher - usually with the help of pre-recorded packaged learning materials. The learners are separated from their teachers in time and space but are still being guided by them (Rowntree 1992).

It can be seen that each one of these definitions describes the nature of distance education from a methodological point of view (it is a teaching or learning method...), laying emphasis on:

- learners being at a distance from the teacher for most or all of the time during the teaching-learning process;
- planning, guidance and teaching being important components of a distance education programme;
- being based on non-contiguous communication without excluding the possibility of face-to-face education.

There are some other definitions that deal with distance education as an innovatory teaching-learning system which involves all elements of an educational system, regardless of the method of teaching or learning. For example Peters(1967) attempts to give a definition which is apt in pointing to the specific characteristics of the new form of teaching-learning process, thus structurally separating them from conventional forms of teaching-learning. This definition is as follows:

Distance study is a rationalised method - involving the division of labour- of providing knowledge which, as a result of applying the principles of industrial organisation as well as the extensive use of technology, thus facilitating the reproduction of objective teaching activity in any numbers, allows a large number of students to participate in university study simultaneously, regardless of their place of residence and occupation (Peters, 1967:125).

This definition shows that within the complex overall distance education activity, one area has been exposed to investigation which had regularly been omitted from traditional didactic analyses. Contrary to other definitions, new concepts are used here to describe new facts. It is suggested that distance education is an industrialised form of education and has its own laws of didactical structure, great teaching

potential that presents new opportunities to both teachers and students which have not been fully studied. Anyone professionally involved in education, Peters maintains, must presume the existence of two forms of education which are strictly separable: conventional education based on personal communication and distance education based on industrialised and technological communication. Although there have always been those who have objected to such a presentation (such as Australian practitioners who deny any differences between two kinds of education systems because of their extension mode of distance education in many traditional universities and colleges), we can still reasonably consider it as an alternative system to conventional education.

If one believes that the designing, planning and managing of the process of learning and their efficient administration are the most important tasks of an educational system, and the definite products of this system are the pre-identified knowledge, skills, attitudes and insight of learners, one will be more likely to favour the type of approach to explanation outlined below:
... unlike conventional education which is teacher-centred, distance education is student-centred which relies on the students as the most important element in the teaching-learning process. It means that the students' aptitudes, capacities, previous knowledge and needs are addressed as far as possible. In distance education, teaching methods are scrutinised and students' behaviours are identified in advance. The process of delivery of learning materials is of great significance, different in that in the conventional system it is the teacher who forms the students' behaviours through regular attendance in classroom. In contrast in distance education students do not usually attend classes and their behaviours mainly depends on the administrative methods and activities of distance education institutions (Ebrahimzadeh 1992a).

Whereas in conventional education the teacher teaches, in distance education the institution teaches (Daniel, 1993:106). Taking this into consideration, distance education learning materials are designed in such a way, as Rowntree (1992) noted, as to:

- enable more people to learn by economising on the amount of teacher time required; use a variety of media appealing to different learners;
- enable learners to study how, when and where they choose;

36

- enable them to work at their own pace;
- set learning activities in the learner's home, community or work place; and
- give learner's responsibility for their own progress.

Viewing the teaching-learning process in the distance education system instead of centring only on the teacher's activities, it is organised in a systematic way which is done by means of other institutional intermediaries. This makes it different from other traditional approaches.

> This difference includes not only the process of learning and/or behaviour of the students, but also the staff who should help students through their learning to be independent and self-reliant. This shift from shaping the student's behaviour to organising and structuring the learning process changes distance education from a method of teaching to an industrialised system of education (Ebrahimzadeh 1992a).

The essential challenge of this system is to set up institutional processes to carry out on a larger scale the function of instructional planning, delivery and assessment that the classroom teacher is able to perform on a small scale in such a flexible manner (Daniel 1993). However, the industrialised characteristic of distance education relies on its potential to mass produce and distribute learning materials, as well as the logistical aspects of administering and co-ordinating the activities of a dispersed population of students and tutors.

The characteristics of distance education

Since 1970, the popularisation of distance education has been accompanied by attempts to map out its main characteristics distinguishing a clear border line between distance education and conventional education. Perhaps one of the first of these developed by Delling (1975) identified eight dimensions of distance education (society, the student, the distance, the information carrier, the study aim, the study matter, the learning result and the supporting organisation) by means of which, it should be possible to describe the whole distance education process. Although he

was able to distinguish some characteristics of distance education, there were still some great problems that remained unsolved.

Holmberg's (1977) studies on distance education in Germany constituted another attempt to pin-point the tasks of this new field of education. He explained through his guided didactic conversation theory what occurs in distance education. The most important contributions to discussion of the character and essence of distance education were made during the 1980s. Here is not the place to explain all of them, but the debate's main characteristics can be established by consideration of definitions which have been previously discussed.

An analysis of all the definitions proposed by Peters (1967), Moore (1973), Holmberg (1977), Keegan (1980), and Rowntree (1992) shows that some basic characteristics can be identified which are essential for any comprehensive definition.

Holmberg (1981) identifies eight characteristics for distance education:

1. The main general characteristic of distance education is that it is based on non-contiguous communication.
2. The learners are at a distance from the teachers.
3. Pre-produced courses, which are usually in printed form supported by other media.
4. Organised two-way communication takes place between the student and a supporting organisation.
5. Distance education caters for individual study... in whatever society, for whatever purpose, by whatever means, under whatever ideology, the essential object in educating process is learning by individual learners... the methodology or strategies employed are only incidental to these ends.
6. Distance education can be and often is a form of mass communication.
7. Distance education is an industrial type of teaching and learning .
8. Organised distance education is a mediated form of guided didactic conversation.

Four of the eight characteristics noted by Holmberg (1-4) are entirely descriptive in character, two also concern application (5-6) and the final two (7-8) include

interpretations aimed at elucidating the essence of distance education. Keegan (1986), similarly, identifies seven characteristics which he regards as being essential for any distance education system. These are:

1. The separation of teacher and student.
2. The influence of educational organisation.
3. The use of technical media.
4. The provision of two-way communication.
5. The absence of group learning, with students taught largely as individuals (while retaining the possibility of occasional seminars).
6. Participation in most industrialised form of education.
7. The privatisation of learning (in that learning occurs away from the group).

Keegan's point of view has provoked discussion in Australia. There Bååth questions whether two of the alleged characteristics of distance education listed by Keegan are in fact typical. This objection concerns the inclusion of occasional face-to-face meetings and the participation in an industrialised form of education among the main elements of distance education. He points out that high quality distance education can be provided entirely at a distance in courses where there is no possibility of additional face-to-face meetings. He further argues that although most distance education can be characterised as industrialised education, there certainly are forms of distance education that cannot be described in this way.

This objection seems to be understandable from the viewpoint of an Australian specialist, because the vast majority of Australian distance education systems are an extension of conventional universities with a small-scale form. This is not the place to debate whether distance education should be integrated within or separated from conventional face-to-face programmes (Perry 1976, Daniel and Smith 1979). It is worth noting that Iranian experience has shown that the integration of distance education with conventional education creates a strong tendency for it to be

assimilated into and affected by the conventional system. But the industrialisation characteristic of distance education is not dispensable.

There is some scepticism about the absence of group learning and the privatisation of learning as a main characteristic of distance education because learning is an individual process and it will occur whenever and wherever, whether away from the group or within the group. Hence these two characteristics cannot be essential for any distance education. However, the other five of Keegan's characteristics are essential. As a result of the above discussion it can be concluded that:

distance education is an industrialised system of education which is organised to structure the process of learning by an institution rather than teacher; it involves selection and implementation of appropriate strategies for the utilisation of technical media in order to provide two-way communication which is aimed at facilitating the student's independence and aiding assessment of their learning results.

A brief consideration of this definition shows that the managing or supervising of the learning process and the preparing of facilities based on the needs and capacities of learners by an institution are more important than teaching method. Nevertheless, the selection and carrying out of appropriate strategies not only involves various teaching methods and using various media which may include print, audio-video, TV, radio and computer, but also extends to distance learning materials, which may be supplemented by direct teaching provided through tutorials, telephone contact or residential sessions. Finally, in this definition the object of evaluation and assessment (final stage of education or teaching-learning process) is not neglected since the student's assimilation of the concepts, skills, knowledge and attitudes which are presented in the distance learning materials is evaluated by their producers or

tutors employing several modes of evaluation to verify the learner's competence and also by students themselves. Furthermore, this useful definition incorporates the main characteristics of distance education reviewed previously.

Contradiction of Terms

There are at least five terms that may be confused with the concept of distance education. There follows an attempt to describe these terms and to show their differences from distance education.

Correspondence education: as discussed beforehand, this term is not a suitable synonym for all kinds of distance education. Keegan (1980) states that communications theory experts tell us that words get tired and if they do then 'correspondence study' [or education] is a tired word. It is a correct designation of that subgroup of the print-based area of distance education in which student contact is not encouraged. It should continue to be used only for such programmes .

Independent study: is the term used in the USA particularly in higher education. Wedmeyer (1977) as a proponent of this term writes that: independent study consists of various forms of teaching-learning arrangements in which teachers and learners carry out their essential tasks and responsibilities apart from one another, communicating in a variety of ways for the purpose of freeing internal learners from inappropriate class p

acing or patterns or providing external learners opportunity to continue learning in their own environments and developing in all learners the capacity to carry on self-directed learning, the ultimate maturity required of the educated person. In several European countries such systems are grouped under the term of distance education.

Offering this definition he feels that the term independent study has the capacity to involve a wide range of activities which usually appear in distance education.

Keegan (1980) responding to this argues that there are three reasons for rejection of this term as generic:

- the normal understanding of independent study implies a different relationship to an educational institution;
- the ideal in distance education is not necessarily independence but as Daniel writes, 'interaction and independence: getting the mixture right';
- in the USA an "independent student" is one who sets up an individual study programme on a contract basis during an interview with a faculty member. The contract may include periods of normal lectures, unguided study or distance programmes.

Open learning: is a term used to describe courses flexibly designed to meet individual requirements. It is often applied to provision which tries to remove barriers that prevent attendance at more traditional courses (Lewis and Spencer, 1986). Open learning is a state of mind rather than a method with particular characteristics. It can be arranged to enable people to learn at a time, place and pace which satisfies their circumstances and requirements. The emphasis is on opening up opportunities that both aim to assist learners in gaining access to knowledge and skills they would otherwise be denied and to give learners the optimum degree of control over their learning.

As can be seen, open learning empowers the individual to negotiate content, mode, length and time of study. Since the essence of open learning is philosophical rather than administrative (Keegan, 1980), it reflects a different and more flexible attitude towards education than that often associated with conventional teaching and learning. Open learning may be offered in conventional face-to-face institutions or through distance education. To call an educational provision "open" is to contrast it to one that is closed. Education can, however, be open or closed in many quite

different ways. Some are open only in a special sense, while others provide freedoms in more significant dimensions - in admission, selection of courses, individual adaptation of the curriculum and time, goal selection and evaluation (Wedmeyer, 1977).

The term is confusing unless the context indicates the dimension of openness that is to be understood. Openness is the main feature of open learning as an innovative method that distinguishes it from other learning and teaching methods. It seems that the use of open learning as a synonym for distance education has arisen since the Open University was established in the UK. Although some ambiguity in institution's names is inevitable, it is not appropriate to use open learning as a general synonym for distance education.

Distance teaching and distance learning: these terms have been more commonly used by the Open University in the UK. Teaching at a distance or learning by distance is only half the process of distance education, nor is distance teaching or distance learning a synonym for distance education alone. At the conceptual level there is a clear distinction between distance education and these two terms. But we are witness to the fact that both concepts are used as if they were interchangeable with distance education. This misuse of two concepts is based on neglect of their main meaning. Distance learning or teaching must be considered in contrast with direct learning or direct teaching. That is, in direct teaching we have to provide face-to-face tuition leading towards assignment and assessment, whereas, in distance teaching or learning the presence of learners in a special place is not necessary. In these processes the main role of instruction relies on distance learning materials. It is

also possible to apply various media and even direct teaching can be provided through tutorials to supplement them.

For this reason we can say distance learning or teaching constitutes a method for transferring concepts, skills and knowledge by distance through the distance education system and that their influence relies on the quality of learning materials more than educational administration. It can be justly claimed that both distance teaching and learning are important means involved in the actualisation of distance education. A suitable term for both together is distance education (Keegan, 1988). Finally, it is useful to mention that distance education is sometimes described as the opposite of face-to-face education. There are many forms of what may be considered in contrast with face-to-face education that are not distance education (Keegan, 1986) according to our definition of distance education, as can be seen in figure 2.1.

Figure 2.1 Relationship of Distance Education to Other Forms of Education

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                        ┌─────────────┐
                        │  Education  │
                        └─────────────┘
               ┌───────────────┴───────────────┐
               ▼                                ▼
    ┌────────────────────┐           ┌────────────────────┐
    │ Direct traditional │           │ Indirect education │
    │ face-to-face       │           └────────────────────┘
    │ education          │                      │
    └────────────────────┘             ┌────────┴────────┐
                                        ▼                 ▼
                          ┌────────────────────┐   ┌──────────────┐
                          │ Independent study  │   │ Distance     │
                          │ Private study      │   │ Education    │
                          │ ------------------ │   └──────────────┘
                          │ Education by letter│
                          │ Printed education  │
                          │ Teaching kits      │
                          │ Audio-visual aids  │
                          │ Radio and TV.      │
                          │ Programmed learning│
                          │ Computer aided     │
                          │ learning           │
                          └────────────────────┘
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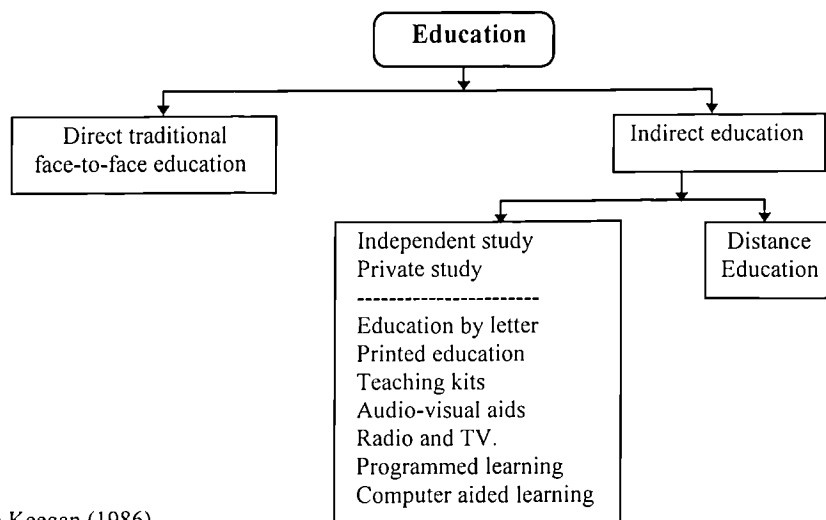
Adopted from Keegan (1986)

Theories of Distance Education: An Overview

While there is no final agreement on the definition of distance education, it is evident from the literature that distance education has, in some respects, managed quite well without any one clear theory to call its own. Practitioners, for example, often claim

that they are interested only in practice. This arises partly from suspicion of theoreticians that try to over simplify education and of those who try to restrict it to theory which is neutral with regard to ends but exhaustive with regard to means.

But as the field matures questions about the theory of distance education do not go away. As Perraton (1981 and 1983) points out, the lack of an accepted theory has weakened distance education because there is a lack of identity, a sense of belonging to the periphery and the lack of a touchstone against which decisions on methods, on media, on financing, on student support, and when they have to be made, can be made with confidence. The words of the American theorist, Wedemeyer (1974:3), published two decades ago, also highlight this when he argues that:

> ...it is unfortunately true that the failure of distance education to develop a theory related to the mainstream of educational thought and practice has seriously handicapped the development and recognition of this field.

Moreover, as Evans and Nation point out (1992:46):

> The distance education community was [and still is] able to respond relatively uncritically to new models for practice, but it is not very keen to engage with critical debate, theory or, to a lesser degree, to do research.

Theories are most helpful when they provide fresh insight on events and problems. They can identify new ways of understanding practice and lead to a significant reduction in the theory/practice divide. They cannot then be dismissed as unnecessary and irrelevant to the needs of practitioners. As Landers and Myers (1977) stress, there is nothing more practical than a good theory.

Of the serious attempts that have been made to theorise in this sub-field most of the useful work has arisen from the practical experience of distance education. For this reason the work of the few major theorists in the field, for all its strengths, remains impoverished by too close an identification with practice. It is, nevertheless, to a

review of this material that we now turn. What can be expected of a theory of distance education has been well expressed by Keegan (1990: 5):

> A theory is something that eventually can be reduced to a phrase, a sentence or a paragraph and which, while subsuming all the practical research, gives the foundation on which the structure of need, purpose and administration can be erected. A firmly based theory of distance education will be one which can provide the touchstone against which decisions - political, financial, educational, social- can be taken with confidence. Such a theoretical basis would replace the adhoc way of responding to 'crisis' situations which normally characterise this field of education.

Holmberg, quoting Popper's concept of theory, also writes: 'the task of scholarship is on the one hand theoretical, to bring about understanding and explanation, and on the other hand practical, to provide for application or technology' (Holmberg, 1991:149). According to Holmberg (1989:167-168), educational theories should:

- have internal consistency as a logical system;
- establish functional relationships between the teaching and the outcomes of learning;
- be capable of generating specific hypothesis and predictions;
- be expressed in such a away that research data capable of possibly refuting (falsifying) the theory can be collected.

Using this concept and framework, the existing theories of distance education are grouped under three headings by Keegan:

1. theory of autonomy and independence.
2. theory of interaction and communication
3. theory of industrialisation.

Each of these theories is critically reviewed below.

Theory of Autonomy and Independence

In two useful articles Delling (1975 and 1976), taking up an extreme position, describes distance study as an artificial, dialogue learning opportunity in which the physical distance between the learner and the helping organisation is bridged by an artificial signal carrier. Delling tends to reduce the role of the teacher and of the

educational organisation to a minimum by emphasising the autonomy and independence of the learner.

Wedemeyer's (1974) work also falls into this category but owes much to the philosophy of Carl Rogers (1969), which in turn is based upon the individualism of American society. Wedemeyer's writing on distance education (for which he tries to popularise the term 'independent study') has two theoretical bases: a democratic social idea and a liberal educational philosophy. Wedemeyer argues that nobody should be denied the opportunity to learn because he or she is poor, geographically isolated, socially disadvantaged, in poor health, institutionalised or otherwise unable to place him or herself within an institution's special environment for learning.

He also considers that 'independent study' should be self-pacing, individualised and goal-free: the student should be free to pace his/her learning according to their circumstances and not be bound by any mechanisms of the institution; the student should be free to follow any of several ways for learning; the learner should have freedom in the selection of goals, the activities that will lead to these goals and to the evaluation of achievements.

Moore's (1984) work with Wedemeyer at the University of Wisconsin has led to further conceptualisation about a family of instructional methods in which teaching behaviour is executed apart from the learning. The separation of learner and teacher led Moore to the analysis of on-campus independent study and his concept of learner autonomy. From this basis he has developed a theory of independent study based on the variables 'apartness' and 'learning autonomy'.

Moore (1993) believes that to define independent study only in terms of distance is a mistake. He argues that the autonomy of the learner is an equally important variable

in correspondence study and other forms of distance education and he proposes a classification of educational programmes by the use of the two variables of 'distance' and 'autonomy'. In this he recognises that learners vary in the extent to which they are able to exercise autonomy. There are, he argues, programmes with much autonomy and dialogue, and programmes with less. A programme with high learner autonomy, Moore holds, may be as damaging as one with low autonomy. The problem is to match programmes to learners so that each learner has an opportunity to develop their own individual learning for personal growth.

It is true that distance education in the final analysis, is education. The assumption is that education is based upon two-way communication. Quality of education is reflected in the nature and frequency of communication between teacher and student. This theory attempts to minimise the role of the teacher and educational organisation by emphasising the students' autonomy and independence. The process of education (conventional or distance) most simply characterised as an interaction or transaction between student and teacher for the purpose of identifying, understanding and confirming worthwhile knowledge. Social values and beliefs are critically analysed and integrated into individual perspectives such that a new consciousness will emerge. The ideal for a distance education system is to adopt a structure and to design learning material that would maximised a student's independence, but it does not mean that would minimise the interaction between teacher and learner.

It is argued here that the excessive emphasis on independence by autonomy and independence theory comes from over-emphasising the physical separation of the teacher and learner as a main characteristic of distance education. It seems that it is

only the morphological characteristic of this system. Shale and Garrison (1990:25) argue that:

> [This] perpetuates an undue emphasis for the form that distance education takes and neglects the critical issue that distance education should be about "education" with the morphological constraints arising from distance being simply a physical and therefore methodological constraint.

Although conceptual ambiguities will be reduced considerably by regarding distance education as education at a distance, the challenge still remains to clarify what is meant by autonomy and independence. Presumably what Wedemeyer means by independent study is that it should be 'self-pacing, individualised and goal-free and not to be bounded by any mechanisms of institution...' (see page 47). If it can be so, then it cannot be distance education (see figure 2.1).

As Moore states, defining independent study only in terms of distance is a mistake (see page 47). There are many other elements which are structurally more important than 'distance' for a distance education system. Moreover many years of study may be necessary before a learner is competent enough to set objectives and study methods or to take part in evaluation (Verduin and Clark 1991:125).

The quality of an educational system is more concerned with 'encouraging students critically to analyse differing perspectives, thereby constructing personal meaning and validating that understanding by acting upon it through communicative acts' (Garrison, 1993:15). The quality of communication on the other hand, is dependent upon using more exclusive control for the complexity of an educational transaction. Figure 2.2 below makes clear this kind of control which is neglected by autonomy and independence theories.

Figure 2.2 Control and Educational Transaction
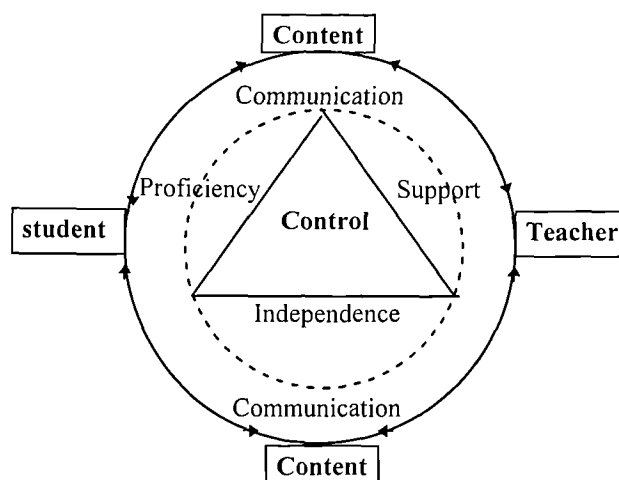
Garrison and Baynton (1987) (in Garrison, 1993:15)

Control, defined as the opportunity to influence educational decisions, goes beyond the rather simplistic view of independence as a freedom to study, to the selection of objectives and the choosing of content by the students without consideration for interaction. Here control is achieved in a complex and dynamic interaction between teacher, student and curricula at the micro level and shared in an inherently collaborative process.

Garrison (1993) proposes that control is based on the interrelationship between independence (as in the self directed learner), proficiency (as in the ability to learn independently) and support (characterised by the resources available to guide and facilitate the educational transaction). This, in turn, is interpreted within the larger relationship between teacher, student and content.

Theory of Interaction and Communication

Holmberg (1983) has proposed the guided-didactic conversation as the concept that best characterises distance education. This, he suggests, identifies procedures which are intended to be effective in facilitating learning. These procedures would include

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course writing in a conversational style in which a careful structuring of content and language distinguishes distance study materials from the normal style of textbooks. According to Holmberg's theory of distance education, study in a distance system is self-study, but it is not private reading, for the student is not alone. Students benefit from having a course provided for them and also from interaction with the tutors and other supporting staff in a distance education institution. The guided didactic conversation can either be real (by correspondence, by telephone and personal contact) or simulated (conversational style of authors of distance learning materials, students' internalised conversation by study of a text).

Bååth's (1980) name has also been associated with notions of two-way communication in distance education. Throughout the 1970s he undertook a series of research projects on the possible forms of two-way communication in education at a distance: on the possibility of providing interaction within materials by means of exercises, questions or self-check tests and on the central role of the tutor in providing communication with the student by mail, telephone, computer or face-to-face meetings.

Sewart (1983) has summarised his interaction and communication theory of distance education as a continuity of concern for students' learning at a distance. He challenges the notions that the package of study materials can carry all the functions of the teacher out, suggesting that, even if they could, materials would become infinitely expensive as they would have to reflect the complex interactive process that operates between the teacher and individual students. In this way Sewart considers the situation of student learning at a distance to be quite different from that of conventional students, because of the absence of swift feedback and of the peer

group as a constant benchmark. The provision of advice and support for students in a system of learning at a distance poses, for him, almost infinitely variable problems. This creates the need for an advisory and supportive role to be played by distance education institutions, in addition to the more obvious provision of a teaching and learning package.

Theory of Industrialisation

Otto Peters is the pioneer of this theoretical perspective. He starts out from the position that distance education is distinctive and new. Hence the analysis of distance education in terms of conventional instructional theory has proved unsuccessful and unproductive. One must therefore seek another basis of analysis. His extensive research on distance education institutions of every kind in the 1960s led Peters to propose the hypothesis that distance education could best be analysed in comparison with the industrial production process. He proposed new categories for the analysis of distance education, borrowing from economic and industrial theory. From his point of view, industrialisation is the symbol of a new era in the development of human life which is fundamentally different from all previous ages. It has influenced all aspects of human life except traditional academic teaching, which seems to have remained unaffected by industrialisation, with the exception of distance education. From the start this form of education has been consistent with the principles of industrialisation. Peters (1973:310) states that:

> Whoever is professionally concerned with education today must acknowledge that there exist two clearly differentiated forms of teaching: traditional face-to-face teaching based on interpersonal communication and industrialised teaching based on technical and pre-fabricated forms of communication.

Peters' application of industrial theory to distance education led him to the conclusion that it was the most industrialised form of education and that

consequently some elements of industrialisation theory have parallels in distance education. These are: the importance of a planning phase; rationalisation, the division of labour, mechanisation, an assembly line, mass production and centralisation. These elements and their application to distance education are briefly described from Peters' point of view and the theoretical perspective forms a key part of the framework adopted for the analysis of PNU in Iran.

Planning

The industrial manufacturing process needs considerable, comprehensive and detailed planning. Similarly, in the setting up and development phase of a distance education system, planning plays an important role. Moreover, the development and production of study materials in such a system, the combining of the teaching-learning process with other media, and the objectification of the teaching-learning process need to be planned in a way that clearly predetermined objectives are achieved in the most effective manner.

Rationalisation

In industry, rationalisation means taking into account all rationally guided measures for achieving desired outputs with a lower input of energy, time and money. Peters (1994:111) declares that:

> ... the introduction of lectures to larger groups of students, the use of printed books and the specialisation of university lecturers were considerable steps towards the rationalisation of the academic teaching process.

In distance education there are ways of thinking, attitudes and procedures which only established themselves in the wake of an increased rationalisation by the industrialisation of the teaching-learning and production processes. The division of teaching-learning into various specified processes, the use of media in teaching and

learning, the use of technical equipment in the production of study materials and new formal mechanisms for quality control can be regarded as results of such rationalisation designed to save teachers' and students' time and energy.

The Division of Labour

According to Peters, industrial production requires long-term planning, high development costs and a relatively stable product. This complex mode of production also needs standardisation for keeping prices within mass purchasing power. The production of complex products is achieved by breaking the process down into a large number of simple operations each being done by a worker on a production line. Peters (1994:113) argues that:

> The division of labour is the main prerequisite for the advantages of this new form of teaching [distance education] to become effective. The principle of the division of labour is thus a constituent element of distance teaching.

The function of academics in distance education has considerably changed in comparison with the functions of academics in conventional universities. For instance, the two basic functions of the academic, namely the transmitting of knowledge and information and, guidance and counselling, were allocated to two different groups of academics or departments. As in the industrial manufacturing process, in distance education, on the account of the division of labour, more people can be involved in the teaching-learning process.

Assembly Line

The assembly line is characterised by the travelling of work-pieces whilst the workers remain at their places. The efficiency of an assembly line is largely dependent upon the level of mechanisation or automation.

The formal similarity between distance education and the industrial production process again becomes evident to Peters here. In the development of study materials the manuscript is passed from the writer to the other members of a course team, and after specific changes is passed further down the publication production line. Study materials are printed on a large scale, stored and sent to the students. In this way, in both cases, the production process and the teaching-learning process, time, energy and money are, ideally, saved (Peters, 1967).

Mass Production

The development of industrialisation in the Fordist period and improvements in the application of technology in the production process brought about mass production and mass consumption, with students as the consumers of education. The large demand for higher education, particularly in developing countries, led some planners to create large scale operations, or, in Daniel's (1995) words, mega-universities, to respond to this demand appropriately. It is therefore understandable that:

> ... various governments see distance teaching, on account of its similarity with the mass-production process, as a means of providing very large groups of students more adequately with academic teaching than conventional methods would allow (Peters, 1994: 115-116).

Apart from profitability, the mass production of study materials and graduates led many distance education institutions to improve the quality of courses and, ultimately, the efficiency of graduates. Moreover, statistics prove that the number of those enrolled in areas near distance education universities is higher than areas located far from them. According to the principle of mass production, this gap between two areas will be filled up by providing equal opportunities for the dwellers of deprived areas 'just as industrial mass production has assimilated consumer patterns' (Peters, 1994) which might not otherwise have been achieved.

Centralisation

The investment required for mechanised mass production involving the division of labour has therefore led to large industrial concerns with a concentration of capital, and centralised administrations. From an economic point of view, large distance education institutions (i. e. mega-universities) can cater for a very large number of students. It is, therefore, beneficial to create a large central organisation that crosses the traditional division of the responsibility in universities between academic matters and educational administration.

At the end of his comparison between distance education and industrial institutions, Peters (1994:125-126) declares that:

> It was not a purpose of this comparative interpretation to pass judgements on the industrial structures which have been shown to apply to distance teaching. Presumably, the striking advantages of these structures, from a point of view of educational policy and organization, are also connected with important educational disadvantages ... They can be detected and remedied more easily, when the industrial structures characteristic of distance teaching are recognized and taken into account of when the appropriate educational decisions are taken.

In the early 1980s Peters' explanation of distance education as an industrial form of educational practice stimulated many people in the field to adopt, or to recognise in their own practice, an industrial model of distance education.

Peters (1989) contends that distance education, in its present form, is a product of the industrial society. The successfulness of this system is related to its compatibility with the principles and values of the industrial society. He follows the same argument to describe how distance education must now change to address the changes in industrial society as we enter a post-industrial or post-modern era. In industrial societies, there has been much discussion regarding the propounding of

changes and whether distance education responds to these changes or not. Amundsen states that:

> This shift is already apparent in many sectors of the society and is reflected in, among other things, the emergence of new, more individualized technology, more decentralized decision-making, and personal values that focus on quality of life, self-realization, self-expression, and interdependence ... (Amundsen, 1993:62).

Thus, the problem is not whether distance education responds to these transformations or not. The problem is how distance education should respond and contribute to these changes. Peters (1993) himself, realising the nature of post-industrial society, and the necessity of the accordance of distance education with this society stresses that:

> In a postindustrial society the traditional industrial model of distance teaching will no longer satisfy the new needs of new types of students with their particular expectations and values which, seemingly, not only differ from those of the students in the industrial society but are in many cases even the exact opposites of them (Peters, 1993:57).

He emphasises that this requires increased telecommunication between participants that enables them to have different sets of goals and objectives and rely more on self-directing and self-controlling leading to greater autonomy. Peters thus believes that the shift from industrial to post-industrial distance education will be a Copernican one.

Although Peters (1989) denies that the comparison between distance education and the industrial production process forms a theory for distance education, his point of view has long been considered as a theory of distance education by practitioners (Bååth, 1981, Willen, 1981, and Keegan 1990).

This way of viewing instructional industrialism brings about some criticism in the sense that industrial theory is regarded as a hindrance to theoretical and practical progress in distance education. For example Evans and Nation argue that:

> [Industrial theory] is a limited and limiting approach and its theoreticians just do not seem to be aware of the substance of competing approaches ... Practitioners, researchers, and theorists in open learning and distance education need to be aware of the broad range of theories available to them in educational theory and social theory more generally. We seek to demonstrate the power of social theories which allow theoreticians, researchers and distance educators to understand the full implication of human agency (Evans and Nation, 1989:58).

They go on to point out that since industrial theory relies on behaviourism, it ignores the humanist aspect of the educational process, and that there are many things to learn from humanistic approaches and from the social sciences for all those who are interested in taking account of the human agency in theorising about distance education.

We, nevertheless, owe much to Peters for the introduction of a useful theoretical presentation. Peters is right to draw attention to the fact that the mass production and distribution of study materials, as well as the logistical features of administering and co-ordinating the activities of scattered populations of students and tutors, involves the application of principles from the industrial sector. The skills of production/operations management are needed to ensure that materials are developed, produced and delivered on time to learners. Rumble states that:

> Explanations of these processes tend to be couched in the language of 'classical management' ... which emphasise organisational structures embodying 'rational' working arrangements designed to operate in predictable fashions (Rumble, 1986:14).

It is clear that the application of such principles in an educational institution can be problematic. This is because it is not always easy to match the course development activities which are relatively creative, to an inflexibly scheduled production system.

Secondly, many educators, used to a high degree of autonomy in their daily work, resent the loss of autonomy that is implicit in such regularised and task differentiated systems. This can be a stressful environment for some. Rumble argues:

> This raises problems of interpersonal behaviour both within the productive group and between groups that require a more human- relations approach to management if understanding is to be achieved. Also the 'packaging' of knowledge which the quasi-industrial nature of many aspects of distance education practice implies also raises problems for many educators, most notably for those who believe that the educational process should focus on the personal needs of the student, and that this is something distinct from the training approach implicit in packaging (Rumble, 1986:14).

Furthermore, there is a crucial difference between educational and other subsets of administration such as industry, trade, and commerce. All of the latter know with some clarity what determines an effective organisation, and evaluative criteria are built in through rational measures of profit. In education, however, no such clarity of ends and means exist. Hodgkinson remarks that:

> The educational enterprise does not always know where it is going, or what it is actually accomplishing, or even how to do what is supposed to be its primary task- the teaching-learning process. From an objective stand-point it is not at all clear to what extent teaching methodology is traditionalised ritual as opposed to scientific technology (Hodgkinson, 1991:62).

Criticism of industrialisation theory by western experts of distance education is understandable because western society has now passed or is passing through the industrial era. The principles of industrialism are - in all likelihood - already in the process of fading out. It is also now more appropriate in such contexts to investigate whether there are new affinities between distance education and the post-industrial work process.

Peters has tried to deal with these criticisms by raising doubts as to whether western nations have indeed yet transformed to a post-industrial era. He states that 'the "new era" [post-industrialism] will still remain largely a matter of the future' (Peters,

1993:41). Perhaps the change from industrial technology to new technology will be as fundamental as the change from the craftsman's technology to industrial technology. Here it is argued that in developing countries the problem remains very different from that in western, developed countries. It is also argued that the application of industrial theory to the study of distance education systems in developing and transitional economies can still be very useful. The study of distance education in transitional countries such as Iran, for example, can be greatly enhanced by the critical application of industrial theory.

Because such countries often remain in the pre-Fordist or Fordist stage of industrialisation. Peters' perspective may be the most appropriate for analysis.

Another advantage of this framework is its relevance for the study of large-scale organisations, or mega-universities, that have benefited from, and relied upon, a mass production strategy. For the mega-universities, among them PNU, it is particularly important to consider the compatibility of industrial structures in dealing with very large numbers of students and the production of study materials on mass. Many have enhanced the quality and attractiveness of their study materials and expanded the boundaries of the distance education and training by using the principles of industrialisation.

In contrast to industry, the main processes and products of education concern the interactive nature of humans. Thus, the distance education process cannot be analysed merely by industrial criteria alone. Its procedures are distinctively different and may be problematic on the three counts of ends, means, and evaluation. But it is argued that if distance education institutions, particularly mega-universities, are clear

about where their compatibility with industry lies, a theoretically informed analysis should be helpful.

Moreover, the characteristics of distance education and elements of various theories do not exist as an abstraction, and attempts are, therefore, made here to relate these characteristics and theoretical perspectives to models for the planning and management of distance education - thus revealing how practitioners have tried to design appropriate organisational systems for distance education. The next chapter considers these latter issues in greater depth.

CHAPTER THREE

Planning and Management of Distance Education

Introduction

This chapter reviews the existing literature relating to models for implementing

distance education, and to the relationship between these models and theories of

general educational management. By focusing upon the planning and management of

distance education relevant literature on educational planning in general is also

reviewed. The chapter thus extends beyond Peters' industrial theory, to complete the

overarching framework applied in the subsequent analysis of the case study of PNU.

Models for Implementing Distance Education

Literature in this field demarcates different models for the implementation of distance

education and these help us understand distance education's organisational nature.

A number of classifications exist and these are summarised below. The most

comprehensive are those proposed by:

a) specialists who believe that distance education is a method of instruction, and

b) specialists who consider it as a broader system of education.

Models of Distance Education as a Method of Instruction

Four different types of model are presented in the first group: these relate to the

medium upon which learning is based. Before discussing the characteristics of each

model it is necessary to point out that changes to the application of technology reflects significant shifts in the conceptualisation and practice of distance education. Moreover, there exists a complex mix of technologies and media that makes it difficult to classify distance education models in terms of one medium or another.

One of the most important criteria influencing the choice of technology is the control over the medium available to the students. The use of transitory technologies alone, such as radio and television broadcasts, is not sufficient to support the learning process. However, the value of permanent technologies such as books, audio and video cassettes, and computers lies not just in their ability to allow students to view or listen to material at more convenient times. They also enable learning from other media to be much more effective. Another factor which influences an institution's use of media is the extent of access to a particular medium by the students. This means that whatever technology is used, it must be available in nearly every home at a realistic cost. Different models of distance education in this category can be identified by their choice of media as the basis for the learning materials.

Print-Based Models

By far the majority of distance education programmes are print-based. The teaching strategy of the UK Open University, for example, is approximately 80% print-based, 10% broadcasting (radio and television) and 10% face-to-face seminars and summer schools (Keegan, 1986). The main material of study at PNU in Iran likewise is about 90% printed materials, 8% face-to-face class meeting and 2% broadcasting of TV and audio-visual cassettes (Zohoor et al., 1991). This is a dominant characteristic of many distance education institutions elsewhere. A real disservice has been done to the field by the over-emphasis of eye-catching terms like the 'University of the Air'. Educators,

administrators, and politicians, in both developed and developing countries should realise that the vast majority of distance education courses are printed-based and will remain so, especially where financial resources are limited. An exception to this may be with populations for whom literacy is a problem but courses are required.

Audio-Based Models

Courses in which the educational content is carried by audio-cassettes or transmitted over the radio and to which printed materials are peripheral have in some cases been used by distance educators. They are frequently cost-effective, can be used by people with literacy problems and may be a particularly adaptable and successful method for teaching languages.

Video-Based Models

Distance education can be classified as video-based when the courses are broadcast on television or contained on video-cassettes. Some printed materials containing background, further reading and assessment procedures may be supplementary. Video cassettes can contain short, unlinked sequences, with activities following each sequence, and feedback provided on the activity, either on the cassette itself, or in notes. Video cassettes in particular lend themselves to group use, because of the need for interpretation and discussion of video examples. This can increase the activity and participation of the learners. Furthermore, they can be stopped and replayed allowing time for students to think, discuss and take notes. The development of cable television and the possibility of home ownership or rental of VCRs make this an area of great potential in some cultures.

A variant of both video and audio-based programmes emphasises the educational use of satellites. Daniel (1978) presented an evaluation of the first attempt at satellite-

based programmes to the 11th world conference of the International Council for Correspondence Education (ICCE) at New Delhi. Well made educational TV programmes are good for publicity. They are also excellent for providing information and demonstrating skills because they can show actions and places that cannot be seen in any other way. To support deep learning, the aim of producers of educational TV is generally to enable students to observe evidence; to analyse it; to develop an argument from it; and to draw conclusions (Coe, 1990). But broadcast TV is ephemeral and students cannot follow up programmes effectively. It also represents a one way communication. Thus, educationally it falls short when the goal is conceptual development. For this reason, according to the majority of distance education specialists, video tapes are much better, educationally, than broadcast TV.

Computer-Based Models

Increasingly computers can be used as the medium on which distance education programmes are based. With regard to the computer, perhaps the most promising and dominant application is computer-mediated communication which combines telecommunication technologies with computer capabilities to provide distinct methods of interacting educationally at a distance. The computers' capability for processing and controlling the flow of information may also be used for computer assisted learning off-line. Computer-mediated communication represents a qualitative advance in facilitating interaction at a distance and, therefore, represents an important communication technology for distance education (Garrison, 1993). Since there is so little experience with this type of medium many educational questions exist regarding how and when to use it. On the other hand, using the computer as an instructional medium is not yet widespread both in developed and developing countries. Figure 3.1

summarises the classification of these models with reference to their medium of instruction.

Figure 3.1 Distance Education Models Classified by Medium of Instruction

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                        ┌─────────────────────┐
                        │ Distance Education  │
                        └─────────────────────┘
                                  │
       ┌──────────────┬───────────┼─────────────────┬──────────────┐
       ▼              ▼           │                 ▼              ▼
 ┌───────────┐  ┌───────────┐     │          ┌───────────┐  ┌───────────────┐
 │Print-based│  │Audio-based│     │          │Video -based│  │Computer-based│
 └───────────┘  └───────────┘     │          └───────────┘  └───────────────┘
       │              │                            │
       ▼              ▼                            ▼
 ┌───────────┐  ┌──────────────┐            ┌──────────────┐
 │Distance   │  │Audio cassette│            │Video cassette│
 │study      │  └──────────────┘            └──────────────┘
 │courses    │        │
 └───────────┘        ▼                      ┌───────────┐    ┌───────────┐
       │        ┌───────────┐                │Courses by │    │Courses by │
       ▼        │Courses by │                │television │◄──►│satellite  │
 ┌───────────┐  │radio      │                └───────────┘    └───────────┘
 │Courses by │  └───────────┘
 │newspapers │
 └───────────┘
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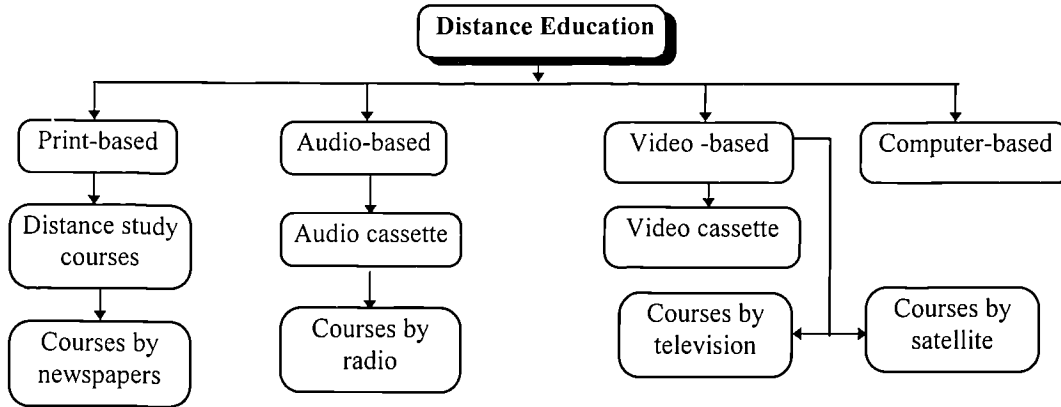
Source: Keegan (1986)

Models of Distance Education as a Broad System

Reasoning that distance education is nothing unless it is a new method of teaching and 'there is nothing uniquely associated with distance education in terms of its aims, conduct, students, and other activities'(Garrison, 1989:8), has led to a critical reaction from many distance education practitioners. They suggest that distance education should be considered as exploratory, evolutionary and innovative in nature, and a discipline in its own right (Sparks, 1983, Gough, 1984, Holmberg, 1986). If we deal with distance education as these scholars suggest, it assumes the status of a new system of education with its own aims, students, methodology, management, and other components. From this point of view there are two models in the literature both of which display characteristics of Peters' industrial theory. These are described below under the sub-headings of the System Model and the Transaction Model.

A Systems Model of Distance Education

The systems view of distance education is proposed by Kaye and Rumble(1981), based on the concepts developed by Miller and Rice (1967) for analysing organisations as open systems which exist by exchanging materials with their environment. The activities carried out by such an organisation are divided by Miller and Rice into three categories:

- **operating activities**: the specific import, conversion and export process which define the particular nature and role of the enterprise;

- **logistical activities**, which ensure the supply of necessary resources for the proper functioning of the enterprise (recruitment, training, purchasing etc.);

- **regulatory activities**, which ensure the overall co-ordination and control of all processes within the enterprise, as well as its links with the outside environment.

The operating activities which are characteristic of distance education enterprises can thus be grouped into two major subsystems which reflect the separation of teacher and student (or teaching and learning activities) to which reference has already been made. The 'materials subsystem' covers the design, production and distribution of mediated learning materials. Materials development embraces the activities of curriculum planners, teachers, contents experts, instructional designers, media producers and other transformers (e.g. editors, graphic designers) who help in the production of media products. The output of their activities are prototype materials which through the materials production process, are turned into finished products, in single or multiple copies, in print, audio-visual, and/or computer software form. These materials can then be packaged together as a course and are then distributed to all the

students and tutors involved in the course, through direct delivering, mailing, broadcasting, or data transmission facilities.

The student subsystem is separate in systems terms from the material subsystems, involving different activities, personnel and resources, all of which are basically concerned with facilitating the students' learning activities and managing their instruction. It admits students to the institution, allocates them to the courses, local centres and tutors and counsellors, collects fees, ensures that they receive course materials, assesses their progress, issues certificates, and maintains their records.

The point of contact between the two subsystems occurs when the students receive the learning materials and start to use them. Figure 3.2 shows a systems model of distance education.

Figure 3.2 A systems Model of Distance Education
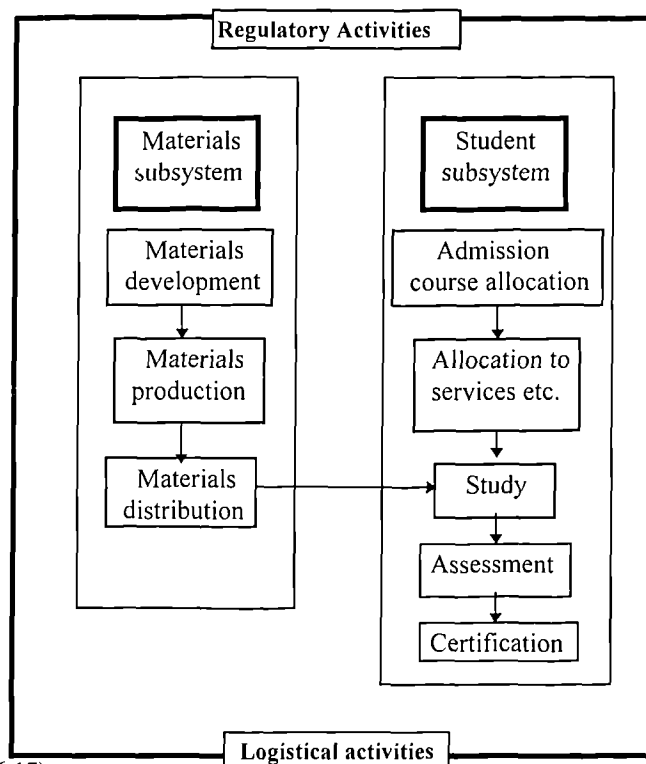
Source: Rumble, (1986:17)

The value of this simple systems model is that it clearly identifies the principal activities involved in running a distance education enterprise, as well as the inter-relationships that exist between them. It underlines the importance of the quasi-industrial process that characterises the production and distribution of materials and lays stress on the specialisation of tasks and division of labour. It defines the difference between an educational publishing organisation (which would only require a material subsystem) and a distance education institution (which must also provide an appropriate student subsystem). It also helps pinpoint the activities which are independent of students numbers (e.g. course development) and which are therefore susceptible to economies of scale, and is hence a useful starting point for financial modelling. Finally, it underlines the fact that, theoretically and in practice, different groups and organisations can collaborate in providing distance education systems, each perhaps taking on responsibility for different activities, or clusters of activities, within each subsystem. But this model seems to neglect certain fundamental aspects of distance education.

In distance education the goal of linking materials to learning is at the centre of the organisational structure. In conventional education the intersubjectivity between teacher and learner - that is necessary to the teaching-learning process -is automatically set up. In distance education this intersubjectivity is lacking and there can be no guarantee that anything will happen once learning materials have been developed and dispatched to the students (Keegan, 1980).

Administrators of distance education systems who consider that distance education is merely a marginal or peripheral part of traditional education often forget to provide this link. They make the mistake of thinking that once the learning materials have

been developed and dispatched the job is done and learning will occur. In distance

education there is no basis for assuming this unless a successful linking system is

provided. For instance if the point of contact between the two subsystems (learning

materials and students in figure 3.2) is taken into consideration, and the link between

the two subsystems is not made clear then a broken system will be present (see figure

3.3).

Figure 3.3 A systems Model Without Linking Intermediaries

Organisational tasks	Student learning activities
Learning materials producers	Receive learning materials
Develop learning materials	Learning process
Learning material dispatch to students	Quality, quantity and status of learning
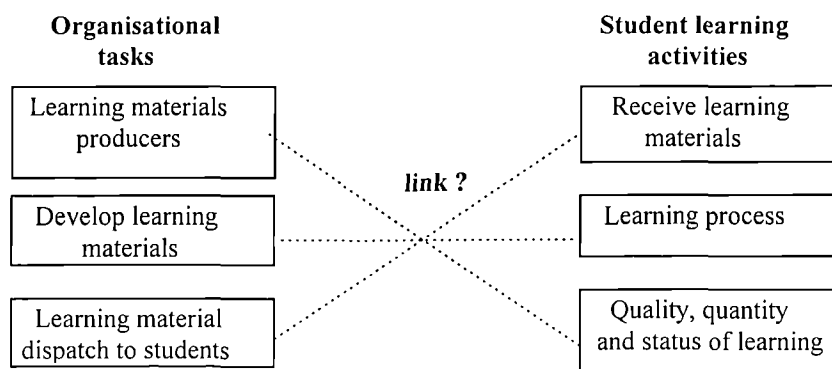
link ?

As can be seen, the question on the student learning activities, particularly on the

quantity, quality and status of learning remain in need of solution. This means that we

need some linking elements to bring the two subsystems together so that their

connecting function enable the whole system to work appropriately. Utilising these

connecting elements will let the system convert from a broken to an integrated form as

shown in figure 3.4 below:

Figure 3.4 A systems Model With Linking Intermediaries

Learning Materials (L M) sub-system	Linking Intermediaries	Students sub-system

```
┌──────────┐          ┌──────────────┐
│    LM    │◄─────────│ • Tutors     │              ┌──────────┐
│ Producers│          │ • Counsellors│─────────────►│ Learners │
└──────────┘          │ • Evaluators │              └──────────┘
                      │ ------------ │                   │
                      │ Dialogue and │              ┌──────────────┐
┌──────────┐          │Communication │              │ Learning     │
│   L M    │ Feedback └──────────────┘              │ activities:  │
│• Developed│ system        ▲                       │ Quality      │
│• Produced │◄──────────────┼──────────────────────►│ Quantity and │
│• Dispatched│         ┌──────────┐                 │ Status       │
└──────────┘          │ Student   │                 │ of learning  │
                      │ services  │                 └──────────────┘
                      └──────────┘
```

└─── Organisational tasks ──┘   └─ Students learning activities─┘
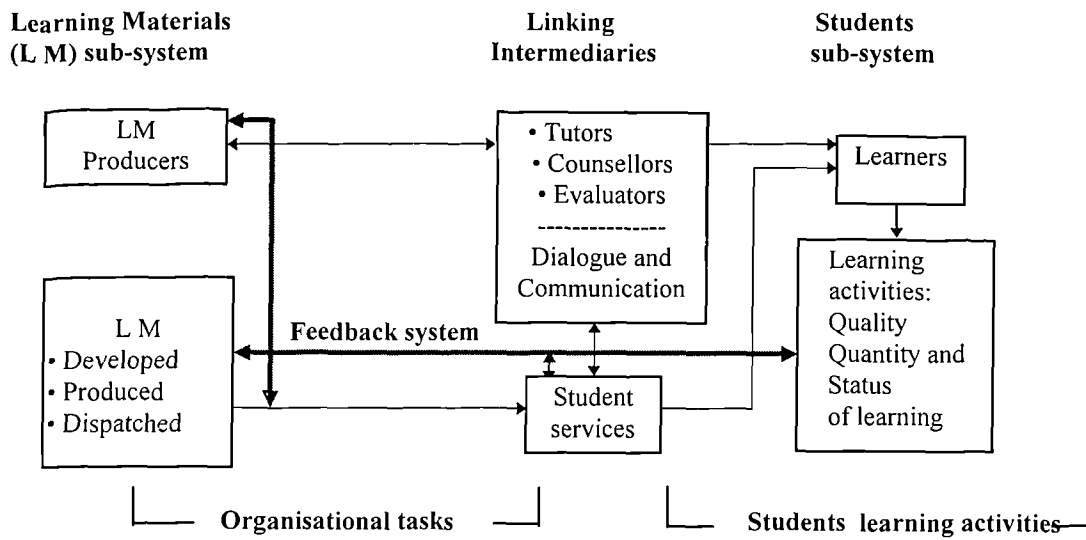
A Transactional Model of Distance Education

A rather different systems perspective is obtained by viewing distance education from the sometimes competing perspective of the principal 'actors' involved in the process, and the relationships or transactions between them. In conventional education, the transactions of the vast majority of the learners are with individual teachers who may give personal advice on course choice, help with administration problems, and generally monitor the progress of the learners. These transactions usually take place within the physical boundaries of the institution. In distance education, however, the situation is quite different. Learners have three principal types of transaction to maintain, and each of these has a different site within the system (see figure 3.5).

Transactions with the learning materials - reading, viewing, listening, manipulating, selecting, interpreting, assimilating, synthesising, and so on; the place of these interactions is generally the students' home, work place and maybe a regional study centre.

Figure 3.5 A Transactional Model of Distance Education
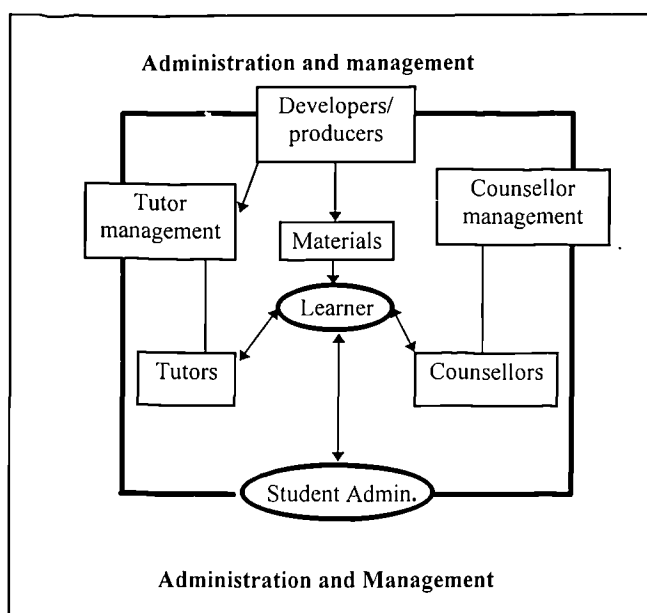
Source: Rumble (1986)

Transactions with 'intermediaries' such as tutors, counsellors and others who are there to help in interpreting and using the course materials and to promote group discussion and interaction with other learners; the place of these interactions varies; local study centres or occasional residential sessions for group work, laboratories, classes, the home or place of work for exchanges by post, telephone, or other communication devices.

Transactions with the institution or at least with the student services division and to deal with administrative and general queries and problems. These are of necessity often impersonal, having to be carried out at distance and may be perceived by students as problematic (the unfeeling bureaucracy of the faceless institution etc.). However, the institution may at times deal with students on an individual basis through personal counselling services and the faceless bureaucracy may be humanised to the extent that such services are available (Henri and Kaye, 1985:125).

Beyond this circle of transaction in which the learner participates is a complex set of

invisible (to the student) activities and interactions which are necessary for providing,

co-ordinating and maintaining learning resources, the network of intermediaries, and

student services. These activities were outlined above (course and student subsystem,

figure 3.2). The principal agents responsible for these activities are:

- educators and subject-matter experts responsible for selecting, organising and developing the content and curriculum of a particular course.
- 'transformers' of various kinds, who work with the subject-matter experts in developing and producing the specific media products which make up the learning resources. These include editors, graphic designers, media producers, educational technologists, and computer software programmers.
- managers responsible for planning, the formulation of policy, organisation and staffing, co-ordination and control;
- evaluators concerned with monitoring the functioning of the system, providing and analysing information for decision-making and recommending necessary corrective actions. In some cases these will be specific individuals based in an evaluation or management information unit, in others evaluation may be done by managers and educators as a normal part of their work (Rumble, 1986:22-3).

Viewing distance education systems in instructional terms emphasises the human

relations aspects of management, in contrast to the systems approach which tends to

stress the 'rational' aspects of management.

The strength of this model lies in its recognition of the special nature of the teaching-

learning relationship in distance education, determined by the physical separation

which it involves. The description of tutors, counsellors, etc., as 'intermediaries'

captures this perfectly. The importance of this cannot be overstated: any successful

approach to distance education must focus on the nature of interaction between

student and teacher and the implications of this for system design; it is not enough to

attempt a straightforward 'transfer' of a conventional course to a distance education

model, hoping to rely on an efficient production and delivery system. Failure to

recognise this and to consider the crucial balance between independence and support can be a recipe for failure.

Distance Education and Educational Models

This section considers the extent to which the seven basic characteristics of distance education (see Chapter Two) are affected by the general model of education underpinning a particular distance education system. By a 'general model of education' we mean a coherent and organised body of concepts and ideas, based on a particular world view or philosophy, from which prescriptions for principles and methods of teaching and learning can be derived. A number of different classifications of educational models exist. Those proposed by Bertrand (1979) are employed here.

The framework he developed divides educational models into three categories: Institution-centred Models, Person-centred Models and Society-centred Models.

The main features of institution-centred models lie in maximising the effectiveness and the efficiency of educational practice. Bertrand groups here, under the heading of systematic models, those models which basically treat learning as the processing, storage and retrieval of new information (what Rumble (1986) calls information processing models). Bertrand also includes Skinner's (1968) behavioural approach in this group.

Person-centred models on the other hand analyse education from a humanistic perspective, putting the main emphases on individual growth, on the 'meaningfulness' and the personal significance of learning experiences, and on the motivation of the learner. Carl Rogers' (1969) model for non-directive teaching represents the best known application in this area.

Finally, Bertrand's third category covers models which are based on social action and interaction approaches, where the main role of educational activity is to bring about change in society and the social structures of institutions.

According to existing literature the majority of distance education systems established so far in many countries, particularly at the tertiary level, conform to institution-centred models in which the primary focus is on increasing the efficiency of the institution as a purveyor of mass education. An over-riding concern appears to be that of making the systems as efficient and cost-effective as possible; educational planners, operational staff, media producers, instructional designers and evaluators are often assigned key roles in institutional structures. Learning material writers, tutors, counsellors are assigned to the roles of intermediaries between the teaching system and its learners. The very reliance of distance education on the use of media and communication technologies can be said only to have served to strengthen the temptation to apply educational models of the information-processing variety to the design of specific institutions.

However, all distance education systems need not be of the institution-centred type. It is possible to design person- and society-centred models. What is important is that the philosophy of education or main purpose of design of the system should be made explicit. In other words, if basic assumptions and philosophies are not clearly defined at the starting stage, considerable misunderstandings can arise in later stages. Designing a distance education system based on a particular model will thus need particular types of organisation, planning, and management. For instance, designing a distance education institution based on the systems model will need the careful application of the principles of industrialisation theory, the basic elements of the

institution-centred educational model and the principles of bureaucratic organisational

theory. Figure 3.6 reflects a models of distance education and their theoretical basis.

Figure 3.6 Models of Distance Education and their Theoretical Basis and Relationship to Educational Models
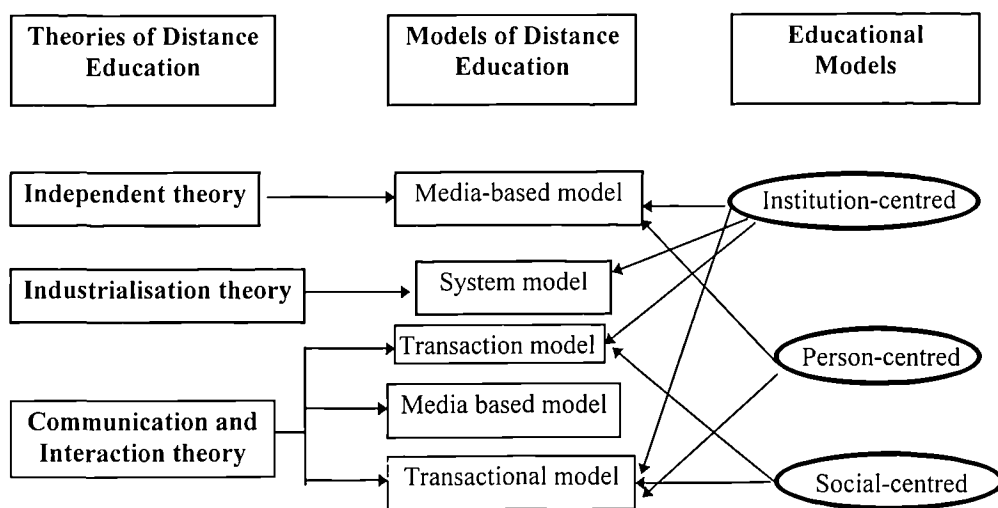
Generally, the educational models which underlie the design of specific projects or

institutions are not made explicit in the terms used above. Usually, and in the best of

cases, choices will be made from among the whole range of different models, in such

a way as to suit the particular curriculum, learners and situation. However, it is

possible to design distance education based on all of the above mentioned models.

What is important is that the dominant world view in the society and philosophy of

education should be taken into account so that provision suits the context.

Policy Making and Planning in Distance Education

Policy making and planning are inextricably related to administrative activities

whereby ideas are translated into action (Hodgkinson, 1991). There was a time when

policy making and planning was perceived as an exclusive right of governments. The

move towards institutional autonomy, particularly in higher education, led to the

increased involvement of higher education institutions and university managers in the

policy making and planning processes of their institutions. An emphasis on proactive rather than reactive management and the potential benefits of more effective resource management, staff deployment and the possibility of evaluation follow the use of systematic planning in education.

What is Planning?

In common usage, planning is preparation for action, but in special usage there are many definitions of planning. Here the term is used to represent a continuous process of determining policy, priorities and decisions for the future actions of the educational system with regard to economic and political realities. Hence, planning is a political and economic rather than an educational process. It is essential to bring about desired changes in educational institutions, to improve their effectiveness and functional efficiency (Reddy, 1986). Apart from sustaining educational effectiveness and organisational efficiency, planning, as a generic process, provides continuous direction for distance education.

There are, however, many criticisms of educational planning in developing countries. The critics argue that educational planning is often confined only to formal education and tends to maintain the existing system (Mutua and Nitmaswa, 1988). Planners are also criticised for not giving due consideration to change and for not being flexible enough. Wallace (1991:188) argues that:

> Flexible planning is, perhaps, an oxymoron. Flexibility implies the ability to respond rapidly to changing circumstances while the notion of planning suggests the formulation of a design which will lead to a sequence of pre-specified changes over time. A model of strategic planning which will guide action in schools [and universities] in the current context, where some aspects may be turbulent while others remain stable, must therefore address a tension between two contradictory influences.

For an educational institution, planning is essentially a matter of spanning or mapping the route between the perceived present situation and the desired future situation. Existing plans can rapidly be modified as circumstances change without having need to re-plan from scratch (Wallace, 1991) because a logical plan has already considered likely changes. The effectiveness of the process is largely dependent upon the clarity of the situational analysis and the skill in translating the ideas into the real outcomes. This view places planning at the heart of the management process, in which it moves management away from a reactive into a proactive approach and from a response based on expediency into a value-driven approach which is founded on consent and consensus (West-Burnham, 1994).

When institutional planning is at the mercy of national political policy change, the response can often only be reactive. However, institution autonomy may increase the scope for planning, remembering that plans are intentions which may have to be modified in response to internal and external changing circumstances. West-Burnham (1994:84) states that:

> The combined effects of institutional autonomy, public accountability, formula-based funding ... mean that failure to plan is no longer an option. The world will not be in the future as it has been in the past.

Planning is a process that has to be rigorously managed. It is generally organised through individuals and groups participating in various roles. At one extreme, as Wallace and McMahon (1994) remark, a manager may make a unilateral decision and at the other, all staff may be invited to complete a questionnaire on their preferences for the development of the institution. They further argue:

> Participation in planning procedures also varies along a dimension from shared decision-making, through consultation on idea and preferences, to being informed about decisions made by others (p. 18).

In a centralised institution like PNU the actions of headquarters have a key influence on the degree of participation that is allowed to others. Study centres, for example, may have a role in the development planning of the university and in the decision making process, since they are in position to set some of the parameters for participation.

Models of Planning

In the field of education, particularly in developing countries, there are many limitations on human resources. They have, therefore, to plan their activities at national, sectoral, regional, local and institutional levels in order to reduce waste in resources and provide a cost-effective education.

Models of planning emphasise different factors. Some deal with education an essential element for society's cultural development, for the promotion of knowledge and for the development of the individual. Some address the manpower objectives for each sector of the economy. Each has something to say about what may be observed on the ground, yet their assumptions are divergent. They have all been used in many countries and each has been the subject of criticism. A key factor is the degree of rationality, feasibility and conformity of the model with the cultural, economic and political circumstances of a country. On the basis of what has been discussed in the previous section about models of distance education, it is possible to identify two main models of educational planning each of which has a special relevance. Whilst these issues cannot be discussed in detail here, the relevant points from each are outlined.

The Social Demand or Socio-cultural Model

In this model education is regarded as a form of consumption that directly satisfies human needs and desires. There is a rational economic basis for social development although the return to individuals emerges as greater than the return to society as a whole. In order to meet private demand for education, governments have to respond appropriately. Given that the cost of the education is borne by the government, it can be argued that there is a presumption of an underlying mechanism whereby students and their families arrive at their educational decision in the light of market signals or mechanisms. If not, the social demand model represents a free-for-all.

The social demand model has often been used in connection with the planning of higher education. For example it was featured in Iran before the revolution and in the first development plan of the country after the revolution. One consequence of the implementation of this model was the rapid expansion of higher education in Iran. The need for some degree of shift in higher education towards the study of the physical and technological sciences was largely ignored because it was difficult to forecast what would be the students' study interests and plan accordingly. Consequently, many experts from the PBO in Iran recommended the application of alternative planning models to incorporate economic factors in the process and consider the rate of return.

The proponents of the social demand approach argued that it did not ignore the economic and manpower needs of country, because students would study the labour market before deciding about their field of study. The problem is, when they graduate they resist taking middle-level jobs which society needs to be filled. Jobs are available but not the jobs they want. Only in the long term do such candidates accept these jobs. The critics, therefore argue that where a university place costs about one hundred

times more than a primary school place, slow change is not acceptable. In the long run, the scarcity of resources and shortage of manpower in Iran lead the planners to adopt a planning model that gave a high priority to the attainment of the optimum allocation of resources. For this reason national planners in contemporary Iran changed their strategy and employed the manpower model.

The Manpower or Human Resource Development Model

Human resource development represents another strategy to achieve an optimum allocation of resources by looking at education as an investment. This model which has been used in the majority of developing countries, is based on the attempt to forecast the future demand for educated manpower. Given the length of time taken to provide society with the correct size of workforce to meet its economic needs for different manpower levels (low, middle and high), such forecasts may have to be made for some years (in a long horizon perhaps for fifteen or twenty years). This is one of the major problems inherent in the manpower planning approach, since in the meantime economic needs and labour market conditions may change significantly. From the point of view of many developing countries, this approach, nevertheless, has obvious attractions. Many of nations are suffering from a shortage of skilled manpower and investment resources. Their often blind faith in the power of education to solve most developmental problems, leads them to expand their educational systems largely as they exist. The result in many countries has been a rapid rise in investment in education beyond their financial capacity; and the intensification of the movement of people from rural to urban areas. For this reason many planners were critical of the manpower planning approach in developing countries for largely ignoring the needs of rural areas. Another important criticism of this model is that it

limits educational planning to strictly economic ends and ignores the social and political aims of education. It is argued that economic growth is not the only aim of education, it is not an end in itself but a means to a higher goal. In line with this view, the International Commission of the Development of Education (1972), entitled its report 'Learning to be' and concluded that the aim of education is human fulfilment which, to the members of the commission, implied far more than the achievement of economic satisfaction. Nevertheless, manpower planning is still widely used in some form or another in the higher education sector world-wide. Economists are not able to measure with any accuracy the contribution of education to economic growth. It is assumed that investment in human capital, principally via education, can make an important contribution to economic development, but providing precise information and guidance to help in decision making is needed but problematic.

The Planning of Distance Education

Many contemporary planners argue that distance education can be an effective system within the reach of anyone who wants to have access to it (Perraton, 1982). If this is the case, and distance education institutions are to provide high quality instruction to learners, they need to be systematically planned and scientifically managed. Unlike conventional universities, distance education universities have dual characteristics: relating to academic and material production process. In this sense distance education is an especially complex system and involves especially elaborate planning at a variety of levels. Thus, a fundamental distinction, as Rumble (1986) points out, should be made between strategic planning, operational planning and annual budgeting.

At the strategic level realisable long-term prospects (up to ten to twenty years), are the focus. At the operational level which is concerned with the medium-term (up to five

years) institutional aims consistent with the funds available are the focus. Financial forecasting is extremely difficult, either because governments are not able to predict confidently their medium and long term financial prospects, or because they are in a situation of economic instability where inflation is high (such as the case of Iran) and a long term view becomes increasingly hard to sustain. Finally, the budget level is concerned with the detailed financial plan for the institution for realising immediate objectives normally during one year. Planners need also to pay particular attention to the political climate in which the institution has to operate in order to ensure that those responsible for the allocation of resources have a good understanding of the institution's mission and needs.

The planning process outlined above may appear rational in theory. In practice it is likely to be difficult to follow. The external environment is unpredictable and 'Keeping track of the external influences likely to affect the future of a distance education system ... is a major task' (Rumble, 1986:154). The internal environment may be more predictable. Internal factors and agents are involved in the process of identifying required results by specifying the indicators of success. An idea is worthless unless there are the means to convert it into focused action. These actions are carried out through the internal agents. Planning is not necessarily a top-down process. It is an all-embracing process which needs the involvement of senior, middle and front line managers and teachers. The practicability of a plan depends, either directly or indirectly, upon the extent and amount of the involvement of all those involved in implementation. West- Burnham (1994:90) argues that planning

> ... does not necessarily require a hierarchy in terms of status; this is particularly true in professionally staffed organisations [e.g. distance education institutions] but is increasingly found in total quality businesses where all staff have a shared sense of involvement and commitment.

Participative planning is often argued to be particularly important for mega-universities. Daniel (1995:81) thus observed that:

> ... there seems to be some correlation between the success of a mega-universities and the level of participation of staff in governance. This is not surprising, for knowledge-based industries work best with management processes based on teams and consensus rather than on hierarchy and authority.

The planning process is thus seen from this perspective as an opportunity for development, communication, team-building, integration and enhancing the effectiveness of distance education institutions.

The Management of Distance Education

It is the function of management to translate plans into action. Although Hodgkinson (1991) prefers the term 'leadership' to cover both policy-making and policy-implementation here we use the term 'management' to cover both processes. The management of higher level distance education is different from the management of conventional universities. As has already been mentioned, in conventional education the teacher teaches, in distance education the institution teaches (Daniel, 1993). This is the radical difference. Educational materials have to be produced on a large scale and distributed to thousands of students scattered in different locations. Also the technological dimension of distance education is very sophisticated. Distance education institutions are similar to industrial institutions involving such technology at the production stages, and incorporating features of constant monitoring (Peters, 1994). Viewed as a system, as Kaye and Rumble (1981) indicate, distance education institutions can be analysed in terms of an integrated system of operating, logistic and regulatory subsystems (see figure 3.2). The operating subsystem converts system inputs (new students and pre-existing course materials) into outputs. The main outputs

of the distance education system are courses and educated pupils. The function of the logistic subsystem is to procure and replenish inputs through activities such as the purchase and maintenance of equipment. The regulatory subsystem is at the core of the system. It facilitates co-ordination of various activities of the institution and relates the organisation to its environment. Kaye and Rumble (1981) describe planning, control and evaluation as the underlying process in this subsystem. Distance education universities must have management systems that support three outcomes: good learning materials, effective student service and efficient logistics. These systems are the basis of a viable management structure, organisational design, and monitoring and evaluation. This industrialisation process of educational administration, it is argued, requires administrative skills that are akin to those of an industrial enterprise.

Monitoring

In view of the peculiarities in distance education systems, monitoring has a very significant role to play in them. Monitoring is an essential dimension of both the planning and management process. Distance education is a highly integrated system and there is a close interrelationship between the various subsystems and between the activities. Every activity has to be undertaken according to schedule. It is through monitoring that the management watches the performance of various subsystems in the institution. From the beginning the need and significance of monitoring has been realised and accepted in distance education. Though most distance education institutions undertake this function, the process varies from institution to institution. Some use sophisticated computer-based monitoring systems, while others use manual systems. There is considerable interest in the development of performance indicators both as an aid to management and as a means of monitoring the overall performance

of an institution and permitting comparisons with the other educational institutions. In industry there are a number of key measures which can be applied in distance education as performance indicators to measure effectiveness and efficiencies.

Reddy (1986) has suggested the following questions, the answers to which can lead to performance indicators for managers in planning the monitoring system:

1. Why it is being planned?
2. What aspect of programme will be covered?
3. Who/which agencies will be responsible for generating and analysing feedback information?
4. How will the feedback information be obtained?
5. When and how frequently will the feedback information be obtained?
6. Who will establish the accuracy of information? How will it be established?
7. Who will use the information and initiate the corrective action?
8. How much information is needed? How fast it is needed and what cost will be incurred?

There will be alternate choices for each of the questions raised above. Monitoring is therefore, undertaken in the fields of course creation, production and delivery, tutorial services, effectiveness of instructional materials and media, student evaluation, etc. Monitoring also includes a review of the corrective action taken in response to feedback. It is distinguished from evaluation where judgements are made about quality and effectiveness of project performance (Reddy, 1986). To conclude, monitoring is considered as a link between planning and control.

Analytical Framework for the Management of Distance Education

In the light of the literature reviews undertaken above and in Chapter Two, it is clear that many writers call for systematic, and theoretically grounded planning within the administration and management of distance education. This is, perhaps, essential if we are to avoid the repetition of past mistakes and the generation of familiar problems. Given the administration and management focus of the present study, and the

limitations of the relevant distance education literature, it is therefore now appropriate to consider the potential of the related literature in the more general field of educational administration and management.

Models of Educational Administration and Management

Although the management of educational institutions has been the subject of many studies in recent years, most of these studies have been related to educational management in general, less to higher education and even less to distance education. We will use selected generic models to analyse the management of higher level distance education. Most of the models of educational management that will be presented here possess three major characteristics, as Bush (1986: 16-17) remarks:

1. Theories [or models] tend to be normative in that they reflect beliefs about the nature of educational institutions and the behaviour of individuals within them ... when, for example, practitioners or academics claim that decisions in school are reached following a participative process, they may be expressing normative judgement rather than analysing actual practice.
2. Theories tend to be selective in that they emphasise certain aspects of the institution at the expense of other elements. The espousal of one theoretical model leads to the neglect of other approaches. Schools and colleges are arguably too complex to be analysed through a single dimension.
3. Theories of educational management are often based on, or supported by, observation of practice in educational institutions. The approaches developed initially for industrial or commercial organisations have been adapted, with varying success, for application to schools and colleges.

Many models or theories have been discussed by different writers on educational management. These perspectives overlap along several different dimensions. The models vary in the extent of their applicability to different types of institutions. It is nevertheless useful to review the major models which have been suggested to explain how institutions of higher education are administered and managed. For the purposes of analysis, the bureaucratic, political, collegial and ambiguity models identified by Bush (1986, 1994) are considered in detail.

The Bureaucratic Model

Bureaucratic theory is associated strongly with the work of Max Weber (1947) who

remarks that bureaucracy is the most efficient type of management. Bureaucracy is an

almost inevitable consequence of increasing size and complexity. Using this model as

a methodological tool against which to measure a modern university, it is clear that

universities exhibit many of the characteristics of bureaucratic organisations (Paul,

1990: 31).

The main features of a bureaucratic model are as follows:

- a *hierarchical authority structure* with formal chains of command between the different positions in the hierarchy;
- a *goal-orientation* organisations pursue those goals determined by their official leaders;
- a *division of labour* with staff specialising in particular tasks on the basis of expertise;
- decisions and behaviour are governed by *rules and regulations* rather than personal initiative,
- decisions are made through a *rational process* involving definition of problems, assessment of possible solutions and choice of the most appropriate solution to fit the organisation's goals;
- the *authority of leaders* is a product of their official positions within the organisation;
- leaders are *accountable* to the organisation's sponsoring, or governing body (Bush, 1994: 36).

This model quite effectively characterises the operation of many distance education

universities - their registry, student service, library systems, and personnel and

financial offices; their research infrastructure, and the organisation and administration

of the academic programmes. In terms of goals, bureaucratic theory specifies

organisations as goal-seeking entities, which ignore or understate the contribution of

individuals within the organisations. This is important for the major teaching and

research function of a university as well as to its policy development. On the other

hand, faculty members' claim to academic freedom and professional autonomy are

direct challenges to the hierarchical authority of office which is the hallmark of bureaucracy. A tension arises because academics' authority is derived not from the formal office but from her or his professional and personal education and expertise. Furthermore , the bureaucratic model is more appropriate in stable conditions but it is less valid in situations of rapid change. In changing and dynamic organisations such as distance education universities there may be little opportunity to engage in a rational process of choice. In practice, however, much of human behaviour is irrational and this inevitably influences the nature of decision-making in education. It is therefore often said that hierarchical bureaucratic approaches are most appropriate for the processes of planning, budgeting, and managing course production where line authority and system integration are important factors, but they are not as applicable to processes such as course development, teaching, and research. Any attempt to understand a distance education institution's management thus requires sensitivity to the two dimensions of the operation (production and academic).

The Collegial Model

The collegial model is increasingly advocated as the most acceptable approach to manage universities, particularly in western countries. This model originated within the colleges of Oxford and Cambridge universities. The main features of the collegial model are as follows:

- they assume an *authority of expertise* in contrast to the positional authority associated with the bureaucratic models. Professional authority occurs when decisions are made on an individual basis rather than being standardised;
- they stress a *common set of values* shared by members of the organisation ... These common values are expected to lead to shared organisational objectives;
- they assume that decisions are reached by a process of discussion leading to *consensus* (Bush, 1994:38-39).

Considering these features, most major academic decisions must be made by an academic council. Faculties are usually left to their own devices when it comes to research, teaching and evaluation of students, and any concerns about performance or standards tend to be dealt within an open and collegial fashion.

Distance education universities are more complex institutions compared with conventional universities, and are frequently expected to do more with fewer resources, and to be more financially accountable and responsible. As a result, the collegial model, where it has been applied, has been abandoned or modified in times of financial crisis. Paul states that:

> This model is appropriate when there are common problems to be solved or when it is more important to get consensus and commitment than necessarily to find the most expeditious or cost-effective response to a particular concern. However, when quick decisions are necessary, when there are clear conflicts of interest between competing parties or when unpopular decisions which are difficult to sell to the whole constituency are required, it is not a very effective way of trying to solve problems (Paul, 1990:33).

Furthermore, a suitable social and cultural basis is necessary for using this model in universities' management. For example, in developing countries with less experience in decision-making by democratic means, it is often difficult to get consensus in many concerns. My experience in PNU shows that when there was an effort to get the consensus and commitment of faculties, the problem often remained unsolved or was solved too late. Decision-making by consensus often led to conflict rather than agreement. Nevertheless, as Paul (1990) says, the collegial model is integral to university management and governance because it best lends itself to professional, as opposed to administrative, authority.

The Political Model

Political theories characterise decision-making as a bargaining process. Their main assumption is that the members of organisations engage in political activities to pursue their interests. In contrast to the ideal form of the collegial model, the political model adopts the view that conflict is a natural phenomenon and an inevitable feature of universities. The relevance of the political model to educational institutions specially universities is now being given increasing recognition by both academics and practitioners. Within education this perspective is often referred to as 'micropolitics' (Bush, 1989:69).

Glatter claims that micropolitics represents an essential perspective:

> The language of power, coalitions, arenas, contests, bargaining, negotiations, interests, ambiguity and so on seems very helpful in distinguishing rhetoric from reality [...] in drawing attention to the different purposes which different individuals, groups and institutions have and the various ways they set about attaining them [...] the approaches which may be broadly termed the micropolitical perspective are essential to an understanding of educational administration and management (Glatter, 1982:161).

Baldridge (1971:234) who was not satisfied with either the bureaucratic or collegial models, without denying their importance and fundamental place in a modern university, concludes that: they are not useful in explaining how decisions are made in the universities with which he was familiar. The bureaucratic model is weak in dealing with non-formal power and its stress on structure over process. While aimed more at the process of decision-making, the collegial approach and its emphasis on consensus failed to explain or deal with conflict. He thus borrowed from sociology and political science in proposing a political model of decision-making, one which recognised the predominance of power groups. Citing conflict theory, community power theory and an informal groups approach, Baldridge's political model emphasises policy-making by analysing factors of the social context, identifying how

interest groups explain their causes, how these feed into the legislative process, and hence how policy is developed and executed. The political model has the following major features:

- it tends to focus on *group activity* rather than the institution. Interaction between groups is in the heart of this model;
- political theory is related with *interests* and *interest groups,.* their different objectives, leading to conflict between them;
- this model proposes that the *goals* of organisations are ambiguous and contested;
- decisions are made after a complex process of bargaining and negotiation;
- the concept of *power* is central to political theory. The decision-making process is likely to be determined finally according to the relative power of participating individuals and groups.

There is no question about the usefulness of this model which may be seen both at the departmental level and institutionally, in analysing and understanding much of what goes on in a distance education university. More recently, pressure for accountability and productivity have introduced new and strong stockholders, notably government and industry, so that funding is increasingly allocated to specific goals, and traditional norms of collegiality and autonomy have been confronted directly by those who provide most of the institution's resource base.

In annual seminars of the PNU's regional study centre managers we realised that, in spite of their long distance from each other and their scattering through the country, they have notable unanimity among themselves and they attempt to influence central campus authorities, including the university chancellor and vice-chancellors, in the decision-making process and the adoption of certain policies. This is an interest group with power that influences directly the formal decisions of top managers. They have been able to establish agreement among themselves and form an alliance because of their common interests and problems. Recognising this kind of phenomenon is possible by using the political model.

Despite this capability, the political model suffers from the same limitations as the bureaucratic and collegial models in that it explains only part of a university's functioning. It is most effective only when combined with other models to address both the structure and process of university management and administration.

The Ambiguity Model

One of the most appealing analytical approaches for those who have tried to understand universities is the ambiguity model, sometimes referred to as 'organised anarchy' (Cohen and March, 1974). This model stresses ambiguity of goals, fluid participation by individuals in the decision-making process, and lack of clarity as to means. These ambiguities and uncertainties challenge traditional forms of management. This model challenges rational theories of choice which presume pre-existent goals in such rapidly changing times. Paul (1990) explains this by stating that today's university presidents have difficulties in dealing with the many interest groups, hidden agendas and natural inertia of prevailing social structures. In examining such regular decision-making tasks as planning the budget, developing educational policy, and ruling on academic tenure and planning, Cohen and March demonstrate considerable insight and imagination in suggesting how one can lead in such an ambiguous environment. They suggest that goals should be treated as hypotheses, intuition as real, hypocrisy as transition, memory as an enemy and experience as theory (Cohen and March, 1974:226, cited in Paul, 1990). These concepts appeal to those who have experience in university governance. But Millet (1980) suggests that Cohen and March have failed to distinguish between the overall direction of the university and problems of priority within the faculties. He argues that the faculties, not the president, are the managers of learning processes and denies the

vagueness of the university's goals. He states that it is the priorities and methodologies within the overall goals that lead to conflict (Millet 1980:184).

Paul (1990) remarks that Millet like Cohen and March are focusing basically on the management of the academic sector and of faculty governance then, he adds:

> The modern university is a much more complex institution of which this is only one, albeit the key, part, and hence neither the collegial nor organised anarchy model is a completely satisfactory representation. Furthermore, pressures for more accountability, for diversification of funding and for opportunity for younger academics during periods of retrenchment, have challenged collegial modes of decision-making, especially where they have been perceived as too slow or cumbersome in responding to an ever-changing environment (Paul, 1990:38).

Distance education universities are rapidly expanding and changing particularly in their initial stage of operation. On the other hand, these universities are a kind of 'professional client-serving' organisation. The students often demand inputs into the process of decision-making, especially where it has a direct influence on their educational experience. Professors and tutors are expected to be responsive to the students' perceived needs other than acting under the direct supervision of hierarchical superordinates. The requirement that professionals make individual judgements, and do not necessarily operate according to managerial perceptions, leads on to the view that distance education universities can correctly be portrayed as 'organised anarchy'. Enderud argues that:

> ...large and complex, multipurpose, rapidly expanding or otherwise changing organisations are anarchic [...] so are organisations with high degree of professionalisation among their rank and file, service-producing organisations probably fit this picture better than good-producing enterprises do (Enderud, 1980:236).

Distance education institutions which try to be more open, in a period of change may experience difficulties in interpreting the various messages being transmitted from the environment. This kind of uncertainty over the significance of external signals, as

Bush (1986) says, adds to the ambiguity of the decision-making process inside the institution. Analysing the management and decision-making process of distance education institutions in such situations will be more appropriate if it is based on the ambiguity theory because decisions in this situation are usually unplanned. The bureaucratic perspective assumes that when problems arise, possible solutions are formulated and the most appropriate solution is chosen.

The advocates of the ambiguity approach claim that this logical sequence rarely occurs in practice. Problems, solutions and participants' interaction and choices somehow emerge from conditions of ambiguity such that there are no criteria for making the connections. Hence, as Bell (1980:190) observes the ideal solution and its related problem may not be linked.

The ambiguity model stresses the advantages of decentralisation while centralised organisation is recommended by the most practitioners of distance education as an appropriate form for administration and management, despite their complexity and their dispersed regional study centres.

The Search for an Over-arching Analytical Framework

The four theories discussed above provide important insights into university management. They also provide perspectives from which the management of distance education systems can be analysed and then compared and contrasted with that of conventional educational systems. All of these models are uni-dimensional. Indeed, elements of each model may be identified as present in the same institution, at the same time, depending on circumstances. Each model individually is partial and selective but taken together they may represent a powerful means of analysing and understanding events and situations in education. We can examine whether particular

management and leadership models or theories are more or less appropriate in distance education systems than others, and whether distance education systems on balance exhibit different features from those found in conventional educational institutions.

Distance education systems particularly mega-universities, clearly exhibit some features not found in conventional universities which make their management qualitatively different (Kaye and Rumble, 1981:177). The question arises whether traditional forms of academic management can be applied to a distance education system. For this reason some experts (e.g. Ellstrom, 1983 :236) recommend the syntheses of two or more theories in providing a more comprehensive analysis or explanation of distance education institutions. But this means the establishment of another model and it is not clear whether any can have universal acceptance. One answer, then, as Paul (1990) suggests, lies in not yet another organisational model, but in the concept of leadership. He argues that:

> Today's challenges place a very high premium on institutional leadership, that which develops a clear and coherent sense of direction and a comprehensive and value-driven way of getting there. It represents the practical application of what has been learned about leading people in other settings, notably the corporate world, informed by what the various models of universities as organisations tell us about the practical requirements of that milieu. It is leadership that can encompass a number of management and governance styles, a sense of purpose and direction that will provide meaning for and integration of the various activities and functions throughout the institution (Paul, 1990 :67).

Strong leadership will be able to bring the organisational components together and give integrity to the institution for ensuring the effective function and entire support structure for students and faculty alike.

While much more attention is paid here to the various techniques of administration and management, leadership, which is vital for success of any institution, involves a

lot more than technique. 'Leadership' is an ambiguous term encompassing both

administration and management 'with more than hundred definitions' (Burns,

1978:2). Hodgkinson while confirming this point states that:

> It is a truism that no educational administrator would freely admit to not being a
> leader. On the contrary, the administrator would tend to conceive of the role of
> leader simply by way of definition [...] the term can then be used
> synonymously with administration. Administration is leadership. Leadership is
> administration. (Hodgkinson, 1983:195)

This definition can be helpful for our purpose in adding to Peters' theory in devising a

framework to analyse distance education administration and management. If

leadership is administration then what is the administration?

The Concept of Administration

Figure 1.1 sets out the framework for the observations which follow. The difference in

usage between administration and management, is to some extent a matter of semantic

convention. Management is both subtended from and subsumed by the larger concept

of administration (Hodgkinson, 1991:51). This is because administration

systematically embraces and generates the management and is hierarchically superior

and prior to management. This is not a value judgement and does not mean that the

former is somehow better than the latter. Hodgkinson argues that organisations can

persist longer without administration than they can without management and on this

criterion management would represent the better set of functions. Value judgements

can, of course, be made if the criteria are specified. (Hodgkinson, 1991:51). Table 3.1

illustrate the systematic distinction between the activities more properly ascribed to

administration and those more properly ascribed to the lower systematic level of

management.

Table 3.1 Differentiating Aspects of Administration/Management

Administration	Management
Art	Science
Policy	Execution
Values	Facts
Generalism	Specialism
Strategy	Tactics
Philosophy	Action
Upper ranks	Lower ranks
Qualitative	Quantitative
Reflective	Active
Human	Material
Top management	Middle management
Deliberation	Details

Source: Hodgkinson (1991)

This table shows that the distinction lies in organisational functions. The more one is involved with matters such as ends, aims, policies, strategies, and philosophy of the organisation, the more one is engaged in administration. Likewise, the more one is involved with matters like implementation of policy, execution and operational decision-making, the more one is engaged in management. Administration, therefore, can be defined as 'the general form of human behaviour which seeks to achieve ends through organisational means. As these means are specified they give rise to technology and to the management of technology' (Hodgkinson, 1991). Because of commonality of problems encountered and strategies adopted in administration (Barnard, 1972), it can be described as a generalism in contrast to the increasingly specialist requirements of management.

Management has been defined as an 'activity involving responsibility for getting things done through other people' (Cuthbert, 1984). A major function of management in any education system is to ensure that students are taught in accordance with determined curriculum. In distance education systems, management has also to ensure that the study materials required by the students are created and reached them on time.

This means that distance education systems have - in terms of management - two features: academic and manufacturing. One of the biggest challenges for such institutions is the management of professionals, a task usually carried out by fellow professionals who may or may not have training or experience in management. Paul argues that:

> Faculty autonomy is compromised by the course team concept and by the visibility of the course package. Such routinised functions as course production, the distribution of course materials and individualised students' tracking and records system impinge directly upon rather than merely support the teaching and learning process in the institution. Hence [distance education and] open universities almost uniquely represent the strongest tendencies of both orientations - the professional autonomy of university academics and the bureaucratic demands of a large publishing house and service organisation. The inherent conflicts between these orientations have major implications for how such institutions can be managed (Paul, 1990:30).

According to the above definition of administration and management it can be pointed out that in contrast with administration, management demands a special knowledge or training. Hence it could be said that anyone, in principle, can do administration but not anyone, either in principle or in practice, can do management. Despite this, most senior managers tend to regard themselves, without self-conscious analysis, as administrators rather than managers.

In one sense it should be understood that management and administration are inseparable. In the analysis of these processes attention should be paid to this relationship, because analysing management without any attention to administration may take us away from a comprehensive analysis. Indeed, whatever is done by managers is nothing unless translating the strategy, policy and planning - outcomes of administration - into action.

The nature of distance education requires emphasis simultaneously, on the joint focuses of administration and management of the entire organisation. The working

days of any educators in distance education are occupied with both kinds of activities at different times. Furthermore, all organisation members of whatever section and whatever rank, from time to time find themselves engaged in administrative acts, while administrators often find themselves engaged in strictly managerial tasks. In this light, it can be seen that classroom teaching in conventional education, tends toward the managerial end of this spectrum, but in distance education, teaching has particular feature in which administrative and managerial activities are so related to each other that they can never be divorced.

In addition, in contrast to other fields of administration, educational administration is distinctively different and problematic on the three counts of ends, means, and evaluation. Yet these very difficulties, as Hodgkinson states, are the source of peculiar leadership opportunities:

> the opportunity to discover, clarify and defend the ends of education, to motivate towards those ends, the opportunities to discover means and invent process, since the prevalent state of pedagogic science permits rather than constrains, and opportunity to create and establish morally grounded evaluation and legitimate it for all the participants in the great co-operative educational project (Hodgkinson, 1991:62-63).

All of which means that educational leadership/administration is specially difficult, specially challenging and specially moral. Hodgkinson (1991) suggests a realistic model for understanding and analysing this complex process. From his point of view the first stage in the dynamic and never ending process of administration is philosophy and administration. In fact, he defines the entire process of leadership as philosophy-in-action (Hodgkinson, 1983). Philosophy means to him organisational values and reasons for being. The ideas are formulated by philosophical means such as imagination, intuition, speculation, hypothesis, argument, dialectic, logic, rhetoric, value analysis and clarification at top level administration. Then, this idealistic

100

administration level is translated into the plan. The next stage is interring the plan into the political process and selling it to those who finally control the necessary resources to realise the plan. Thereby, the level of idea has shifted to the level of people (policy making).

Afterward, the whole process at the people level, moves toward the mobilising of the resources necessary to realisation of the plan. Motivation of the human resources of the organisation to the collective purpose in this phase, makes the process more managerial rather than administrative but is still within the field of art and politics other than science. After accomplishing this, organisational means influence ends and events occur not merely in the realm of idea and people but also in the realm of things. The final phase of this dynamic process is monitoring, includes formal supervision, auditing, accounting, reporting and evaluation (policy implementation). In systems theory, the monitoring stage feeds back to the philosophy phase and the dynamic cycle of policy -making, administration, policy implementation and management is completed. Hodgkinson (1991) states that :

> This total process can be conceived as the general field of leadership. It may be embodied in a single person or it may be parcelled out into several specialities dependent on complexity of the organisation and its tasks. It is dynamic and recurrent and continuous with the cycle repeating and overlapping with the other cycles initiated at various points in the organisational history. The principle is always the same: a movement from ideas to things or events via the mediation of people. That is the intellectual realm modifies the reality realms of the physical or natural world by human action. The central problem of administration, then, becomes the motivation of this action and, more precisely, since administration is always of a collective, it is to reconcile the self-interest of the individual organisational member or client with the collective interest of the organisation (Hodgkinson, 1991:64-65).

Hodgkinson's perspective, in combination with the other models discussed above, it is argued, enables us to better understand the close relationship between the leadership

(administration) and management of distance education institutions on the one hand, and the interrelatedness between the theory, policy, strategy, planning, tactics and monitoring of these institutions on the other hand. The dynamic nature of this model is also compatible with the conceptual framework provided by Peters and the industrial nature of distance education systems. Together these perspectives and theoretical models provide a framework for the subsequent analysis of the origins evaluation, planning and management of PNU. In the next chapter, however, further details of the case study research strategy are provided.

CHAPTER FOUR

Research Methodology

Introduction

The first part of this chapter examines the perspectives that underpin the methodological strategies adopted for the study. Definitions of types of case studies, their strengths and limitations with regard to this study, and their relationship with qualitative approaches to research are considered. It further examines epistemological issues regarding the choice of research strategy. The second part of the chapter justifies the choice of a case study strategy for the PNU research presented here, and describes the methods used in preparing for and in carrying out the fieldwork. How data were collected in practice and the procedures of data analysis are discussed in the light of their relevance and appropriateness to the research aims and questions introduced in Chapter One.

Definitions of Case Study

The research strategy adopted for this dissertation emphasises a largely qualitative approach built around one detailed case study of a higher education institution in Iran. This choice was influenced by the research rationale that is discussed at length here. An in-depth examination and improved understanding of the case under study, that is

of PNU and its evolution, has the potential to elicit key issues influencing the planning and management of distance education in this distinctive organisation. Moreover, critical reflection upon this case, it is argued, can contribute to the development and critique of broader theoretical principles and to enhanced awareness of issues of concern to others in this field.

While the case study is a well known strategy in social science research, there is little consensus on what constitutes a case study. One set of problems arises when we look at research methods in terms of contrasting approaches involving different epistemological assumptions. Another problem is that many social science textbooks have failed to consider the case study as a formal research strategy of the same order as others (Yin, 1994). Furthermore, the confusing of case studies with ethnography or the techniques of participant observation has served to increase the lack of clarity and appreciation of its full potential.

First of all it is helpful to point out what a case study is not. Case study as a research strategy is not the same as casework, case method, case record or case history. *Casework* denotes 'the developmental, adjustment, remedial, or corrective procedures that appropriately follows diagnosis of the causes and maladjustment '(Good and Scates, cited in Merriam, 1988:15). *Case method* is an instructional technique or a teaching method that has become very popular in law, medicine, and business. 'In teaching, case study materials may be deliberately altered to demonstrate a particular point more effectively. *Case history*, which tries to trace a person, group, or institution's past, is sometimes part of a case study research strategy.

Most definitions of 'case study' have merely repeated the types of topics to which case study has been applied. Such definitions thus cite the topics, including

individuals, organisations, processes, programmes, institutions and even events as the major focus of case studies. For example Merriam(1988:9) notes that:

> ... case study is an examination of a specific phenomenon such as a programme, an event, a person, a process, an institution, or a social group.

However, citing topics is inadequate as a means to establish a comprehensive definition.

From an historical point of view, Platt traces the practice of doing case studies back to the conduct of life histories, the work of the Chicago School of sociology, and case work in social work. The case study strategy, in her view, begins with:

> ...a logic of design ... a strategy to be preferred when circumstances and research problems are appropriate rather than ideological commitment to be followed whatever the circumstances. (Platt, 1992:42).

One might ask what this logic of design is. To Yin (1994) it means consideration of the technical features of this strategy. The technical definition from his point of view begins with the scope of case study:

> 1. A case study is an empirical inquiry that investigates a contemporary phenomenon within its real life context, specially when the boundaries between phenomenon and context are not clearly evident.
> 2. The case study inquiry copes with the technically distinctive situation in which there will be many more variables of interest than data points, and as one result relies on multiple sources of evidence, with data leading to coverage in a triangulating fashion and as another result benefits from the prior development of theoretical propositions to guide data collection and analysis (Yin, 1994:13).

This technical definition suggests that the case study as a research strategy comprises an all encompassing method - with the logic of design incorporating specific approaches to data collection and to data analysis. In this sense, as Stoecker (1991) argues, the case study is not either a data collection tactic or merely a design feature alone but a comprehensive research strategy.

Case study can be further defined by its characteristics. While the number of characteristics cited varies from source to source, there appear to be four main characteristics common to all case studies: these are captured by the terms particularistic, descriptive, heuristic, and inductive (Helmstadter, 1970; Wilson, 1979; Guba and Lincoln, 1981; Stake, 1981, 1995; Hoaglin et al. 1982; and Merriam, 1988).

Particularistic means that case studies focus on a particular phenomenon or situation. This specificity of focus makes it an especially good design for the study of every day practical problems. 'Case studies are problem-centred; small scale and entrepreneurial endeavours' (Shaw, 1978:2).

Descriptive means that the end product of a case study is a rich, thick description of the phenomenon under study. Thick description is a term taken from anthropology and refers to the complete, literal description of the incident being investigated. It also means to Guba and Lincoln (1981:119), 'interpreting the meaning of ... descriptive data in terms of cultural norms and mores, community values, deep-seated attitudes and notions, and the like'.

Heuristic means that case studies illuminate the readers' understanding of phenomenon under study. They can bring about the discovery of new meaning, previously unknown relationships and variables, or confirm what is known. 'Insights into how things get to be the way they are can be expected to result from case studies'(Stake, 1981:47).

Inductive refers here to the fact that the form of reasoning employed in case studies is largely based on inductive reasoning. In relation to this Merriam(1988:16) concludes that:

Qualitative case study can be defined as an intensive, holistic description and analysis of a single entity, phenomenon, or social unit. Case studies are particularistic, descriptive, and heuristic and rely heavily on inductive reasoning in handling multiple data sources. The nature of this particular research design is inextricably linked to certain philosophical assumptions.

Comparison of the technical definition of Yin with the definition of Merriam shows that the origins of case study strategy are embedded in the growing body of literature on qualitative research. This does not mean that case study equals qualitative research or that someone who selects the case study strategy cannot use quantitative data. Yin (1994:14) states that not only can case studies include quantitative data, but they may even consist entirely of such material. For this reason both definitions indicate the use of multiple data sources including both the qualitative and the quantitative. The logic of this strategy for research in social and applied sciences such as education derives from perspectives that attempt to understand how all parts of a phenomenon work together to form a whole. This understanding, Patton writes:

...is an end in itself, so that it is not attempting to predict what may happen in the future necessarily, but understanding the nature of the setting ... The analysis strives for depth understanding (Patton, 1985:1).

The selection of data collection techniques, the way of organising and interpreting or analysing the collected data, and notions of validity, reliability, and generalisability of findings related to these core principles and assumptions are invariably linked to the investigator's own world view and philosophical orientation.

Types of Case Study

Every discipline hinges on research activity to expand its knowledge base. There are many disciplines that use the case study research strategy for such purposes. This strategy may be modified according to the nature of the discipline and its problems, and the kind of knowledge expected. Hence there are various types of case studies

according to disciplinary orientation. Case studies can also be differentiated in terms of their end product. Yin(1994:38) distinguishes between four types of case study using their specific design as a criterion for divergency.

Types of Case Study in Terms of Discipline

The case study in education more often focuses either on individual students in seeking to understand specific issues and problems, or on practice, policy making and the management of educational institutions. Investigation of these issues requires a design that often draws upon a variety of disciplines including anthropology, history, sociology and psychology, both for theoretical orientation and for techniques of data collection and analysis. Indeed Crossley and Vulliamy (1984:193) state that:

> The ethnographic case study of a single community or culture has been central to anthropological enquiry ... However, studies of schools from such a perspective have proliferated during the last [two] decades.

Culture thus, remains a unifying construct of educational ethnography (Goetz and Le Compte, 1984) and whatever the unit of study an ethnographic case study is characterised by its socio-cultural interpretations in context.

A second type of case study that can be found in education is the historical. This type of case study employs documentary techniques by emphasising primary source materials. The historical case study in education has tended to involve description of institutions, programmes and practice as they have evolved in time. In discussing types of case study Bogdan and Biklen (1982:59) introduce historical organisational case studies as one form common in educational research; 'these studies focus on a specific organisation and trace its development'. The key to historical case studies, Merriam (1988) says, is the notion of investigating the phenomenon over a period of time.

A third type of case study is the psychological case study which employs concepts, theories, and measurement techniques from psychology in studying educational problems. The focus of this type of research is typically on the individual and constitutes a way of investigating some aspect of human behaviour. In education a case study of an individual, programme, event or process might well be informed by psychological concepts.

Finally, the fourth type of case study that is employed in education intensively is the sociological case study. This type focuses on the constructs of society and socialisation in the investigation of educational phenomena. Goetz and Le Compte (1984:28) have suggested some topics that can be studied by case studies drawing upon sociology. Examples could involve the study of the social structure of educational institutions, the effect of role sets on teachers' interactions with students, the actual versus the hidden school curriculum, and the relationship of schooling to equalities and inequalities in society at large. Thus sociology along with other disciplines can be seen to have influenced the theory and method of case studies in education and have much to offer future research.

What distinguishes a case study approach in education overall is a focus on questions, issues, and concerns broadly related to teaching and learning. The setting, delivery system, curriculum, student body, and theoretical orientation may vary widely, but the general arena of education remains central (Merriam, 1988:27).

Types of Case Study in Terms of End Product

Case studies have also been classified into three major types according to the nature of their outcome. That is the end product of a case study can be primarily descriptive, interpretative or evaluative.

A *descriptive* case study presents a detailed account of areas of education where little research has been conducted. Innovative programmes and practice are often the focus of descriptive case studies in education. Such studies can form a data base for future comparison and theory building. Lijphart, however, (cited in Merriam, 1988:27) argues that descriptive case studies are 'a-theoretical' and move in a theoretical vacuum; 'they are neither guided by established or hypothesised generalisations nor motivated by a desire to formulate general hypotheses'. In summary, then, in this kind of case study, whatever the area of inquiry, basic description of the phenomenon being studied comes before hypothesising or theory testing.

An *interpretative* case study, like the descriptive type, includes rich, thick description. In this variety of case study the researcher gathers as much data about the issues under study as possible with the intent of explaining or theorising about the phenomenon. Rather than just describing, for example, what was observed or what was reported in interviews, the researcher might take all the data and develop a typology, a continuum, or categories that conceptualises different approaches to the task. The level of conceptualisation in interpretative case studies may range from suggesting relationships among variables to constructing a theory. The model of analysis is inductive. Because of the greater amount of analysis in this type of case study some researchers call them analytical or in Yin's words exploratory case studies. Shaw (1978), however, argues that analytical case studies are differentiated from straightforward descriptive case studies by their complexity, depth, and theoretical orientation.

Evaluative case studies involve description, explanation, and judgement. They have been termed illuminative evaluation (Parlett and Hamilton, 1976), responsive

evaluation (Stake, 1967; Patton, 1980), naturalistic evaluation (Guba and Lincoln, 1981), and qualitative evaluation (Stake, 1981, Goetz and Le Compte, 1984).

Yin notes that case studies have a distinctive place in evaluation research. He writes:

> There are at least five different applications. The most important is to explain causal links in real-life interventions that are too complex for the survey or experimental strategies. In evaluation language, the explanation would link the programme implementation with programme effects. A second application is to describe an intervention and real-life context in which it occurred. Third, case studies can illustrate certain topics within an evaluation, again in a descriptive mode - even from a journalistic perspective. Fourth, the case study strategy may be used to explore those situations in which the intervention being evaluated has no clear, single set of outcomes. Fifth, the case study may be a 'meta-evaluation' - a study of evaluation study (Stake, 1986; Smith, 1990). Whatever the application, one constant theme is that programme sponsor- rather than research investigators alone- may have the prominent role in defining evaluation questions and relevant data categories (Yin, 1994:15).

Case study evaluations of educational issues became extremely popular in western nations in the late 1970's and have been 'the genesis of much educative and basic research since then' (Goetz and Le Compte, 1984:30).

It is worth mentioning that the existence of a typology of case studies does not imply that the boundaries among various types - or the occasions when each one is to be used - are always clear and sharp. For example, sometimes drawing a boundary line between descriptive or explanatory and interpretative or exploratory case studies is difficult enough. Even though each of them may be explained in terms of their distinctive characteristics, there are large areas of overlap between them.

In employing the terms and concepts emerging from the above discussion, the present research is based upon a case study research strategy that is largely qualitative in nature, and descriptive, interpretative and analytic in type. The basic fieldwork was carried out within PNU in Iran during the year 1995.

Strengths and Limitations of Case Study Strategies

Case study as a distinctive strategy for research has, like other strategies, its own strengths and limitations. These strengths and limitations are inherently related to the rationale for selecting the strategy as the most appropriate design for addressing the research aims. For example, the predictive nature of the findings is a strength of experimental research strategies; but if someone needs information about the characteristics of a phenomenon, more detailed description may be needed. Thus, the limited predictive power of case studies is not seen as a major limitation for such works because prediction should not be the research priority.

Another important consideration in assessing the strengths and limitations of various research strategies is to identify the type of research questions being asked. For example, 'how' and 'why' questions are likely to favour the use of case studies. Thus, the question of how the planning and management strategies of PNU have developed and what their strengths and limitations are might be addressed by either a survey or a through a multi-method case study. The survey might examine the planning model, documenting the practitioner's reasons for selecting or developing this model, largely by using statistics and quantitative information. On the other hand, the question also relates to the factors and processes which influenced the planning of PNU, and elements and issues like the political, economic and cultural forces that have modelled its management, and shaped the university's development. This means that some 'how' and 'why' questions need clarification that could generate important insights and help improve our understanding. This is the moment that, Yin (1994:9) argues, the qualitative dimensions offered by case study have a role to play, because how and why

questions are being asked about a contemporary set of events over which the researcher has little or no control.

In investigating a social unit which is complex and consisting of multiple variables of potential importance in understanding the phenomenon, there are few better alternatives to the in-depth case study. It is an appropriate design for educational research and has proved particularly useful for studying educational innovations, for evaluating programmes, and for policy analysis. This is another reason for the application of the case study strategy to the present study. Yin states that:

> Case study's unique strength is its ability to deal with a full variety of evidence - documents, artefacts, interviews, and observation - beyond what might be available in the conventional historical study. Moreover, in some situations such as participant observation, informal manipulation can occur. (Yin, 1994:8)

Case study is often better able to assess social changes than other research strategies and offers insights that can illuminate meanings and expand the readers' experience. These insights 'can be construed as tentative hypotheses that help structure future research' (Merriam, 1988:32)

Although the case study is seen by many as a valuable strategy for some kinds of inquiry, some critics have, nevertheless, viewed it as a less desirable form of inquiry than others. Perhaps, the greatest concern has been over the potential lack of objective rigour of case study research. This critique may be effectively countered if the researcher is careful to develop a systematic and rigorous research design and takes care not to allow biased views to influence the direction of the findings and conclusions. A second common concern relates to the scientific generalisability of case study findings. 'How can you generalise from a single case?' is a frequently heard question. The answer is not a simple one (Yin, 1994). It is true that scientific facts are rarely based on single experiments; they are usually based on a multiple set of

experiments, which have replicated the same study under different conditions, but with the same approach. Yin (1994:10) argues that this tactic, 'can be used with multiple-case studies but requires a different concept of the appropriate research design'. Nevertheless, the real business of the case study, as Stake states, is not generalisation but particularisation.

> We take a particular case and come to know it well, not primarily as to how it is different from others, but what it is, what it does. There is emphasis on uniqueness, and that implies knowledge of others that the case is different from, but the first emphasis is on understanding the case itself (Stake, 1995:8).

The findings of case studies are thus more effectively generalisable to theoretical propositions and not to populations or universes. This can be seen as analytical rather than statistical generalisation (Yin, 1994). This is also congruent with the basic philosophy of much qualitative research.

Another criticism about case studies is that they can take a long time to carry out and they can result in massive documents. This criticism may be relevant to much of the ethnographic research that has been done but all case studies do not require a long time in the field. They can take many forms and need not depend solely on ethnographic or participant observer data. In case study one can use many other techniques to achieve a high quality end product depending upon the topic of study. Yin (1994:78) introduces six sources of evidence for case studies: documents, archival records, interviews, direct observation, participant observation and physical artefacts. The case study, for example, frequently uses a chain of evidences gleaned from interviews, documents and observation to create explicit links between the main questions of research, the collected data and the conclusions drawn. This incorporation of data sources can increase reliability because it involves triangulation. Some other limitations also remain to be considered. Guba and Lincoln (1981:377)

note that 'case studies can over simplify or exaggerate a situation, leading the reader to erroneous conclusions about the actual states of affairs'. Since in case study the researcher is the primary instrument of data collection and analysis, the amount of description, analysis or summary material used is basically up to the researcher. For this reason, case study is also limited by the sensitivity and integrity of the investigator (Merriam, 1988). Reliance upon the researcher as the primary instrument for data collection and analysis can, on the one hand, produce brilliant insights about a phenomenon, while, on the other hand, lead to a pedestrian or even fraudulent analysis. This is what Guba and Lincoln (1981:378) refer to as the 'unusual problems of ethics'. They note that 'an unethical case writer could so select from among available data that virtually anything he wished could be illustrated'. It is true that by custom case study researchers are privileged to assert what they find meaningful as a result of their investigation. But the key interpretations to be pursued are not solely the researcher's own. These are the informants' interpretations as well. The reliability and trustworthyness of interpretations is more important than whose interpretations are presented or emphasised. The researcher, Stake (1995:99) argues, is the agent of new interpretation, new knowledge, but also new illusion. He tries to extend the elegant intricacy of understanding but there is always, in Stake's (1995:12) words, the 'infinite void still lying just beyond'. Indeed, this is an ethical dilemma. As Stake emphasises:

> To draw so much attention to interpretation may be a mistake, suggesting that case study work hastens to draw conclusions. Good case study is patient, reflective, willing to see another view of the case. An ethic of caution is not contradictory to an ethic of interpretation (Stake, 1995:12).

Despite these limitations, it is argued that case study is one of the most effective strategies for social science research especially when 'how' and 'why' questions are

being posed. It is also most appropriate when the researcher is dealing with many variables and has little control over events.

The methodological issues that the researcher considered when planning this study were therefore most complex. Indeed, it was necessary to consider the likely effect of the selected strategy together with others, realising that it is often not fruitful to think of research strategies in terms of competition, because each case study can involve a comprehensive and integrated range of different components.

Compared with other research strategies, I therefore found case study more appropriate for this study in the light of the specific research aims and questions. The decision to adopt this approach for the study of PNU was, therefore, made in full awareness of the complexity of qualitative case study and of the debate on its limitations.

Case Study and Qualitative Research: Epistemological Issues

Epistemological debates about positivistic and non-positivistic research have gone on since at least the second half of the nineteenth century. At that time quantification was seen as a key advantage of the natural sciences. There was, likewise, a strong tendency to apply natural science methodology to the emergent social sciences. The advocates of this school of thought argued that control of nature encouraged them in the belief that they should eventually be able to control the social world in the same measure. The influence in anthropology was also evident:

> Malinowski and Radcliffe-Brown all took the natural sciences as a paradigm for their approaches to the study of 'primitive' societies; though as in the case of Blumer and other Chicago sociologists this was tempered with ideas about the distinctiveness of social phenomena (Hammersley, 1992:167).

Advocates of qualitative methods have, even themselves, sometimes regarded the natural sciences as exemplary; thus Thomas and Znaniecki, two of the most influential

116

advocates of case study and life history methods in the 1920s and 1930s comment on:

'the marvellous result attained by rational techniques (that is, by science and technology) in the sphere of material reality' (cited in Hammersley, 1992:167).

The experience of social scientists, nevertheless, draws attention to the fact that there are many differences between natural phenomena and social phenomena or human behaviour. Merriam argues that:

> Naturalistic inquiry, which focuses on meaning in context, requires a data collection instrument sensitive to underlying meaning when gathering and interpreting data. Humans are best suited for this task (Merriam, 1988:3).

In terms of natural science methodology, the researcher is seen as a keen outside observer of natural phenomenon and detachment of the researcher from the subject under study (natural phenomenon) is not only possible but also in some sense necessary. The acquisition of knowledge about such kinds of phenomenon, and the better understanding of them, does not require a close relationship with the researcher. By contrast, in social life, the phenomenon and context are not always distinguishable. Thus, understanding of social events, human behaviour, and our interactive social world, needs both a close relationship and sympathy with the subject of the study. In other words:

> A social researcher cannot be a senseless mirror that reflects only the face of the phenomenon. If so, he/she can not attain the real expected results. The same detachment between social researcher, society, and human being is, therefore, not possible (Ebrahimzadeh, 1992b:43).

Realisation of these issues helped bring about a growth in the use of qualitative perspectives and methods. Hence, in the past thirty years, qualitative approaches to research have moved from a marginal situation in many applied social sciences, such as education and health, towards a much more central position. There is considerable debate, however, about the extent to which positivistic strategies can be used in

117

conjunction with qualitative methods in a single research study. Many argue that research methodologies 'should not be arrayed hierarchically' (Yin, 1994), and draw attention to the existence of a complex of assumptions and arguments, some of them in conflict, and a range of strategies and techniques that have advantages and disadvantages for particular goals and in particular circumstances. Crossley and Vulliamy (1997:4), for example, state that 'epistemological differences shape a researcher's overall strategy and approach, irrespective of what data collection techniques are adopted'. Moreover, the disadvantages of adopting one methodology rather than another may be tempered through a combination of different methods or even methodologies, thus improving the potential reliability and generalisability of results.

Many professional researchers have sought to do this and, at the same time, they have sought to modify current methodological thinking about qualitative research in a variety of ways. They have tried, then, to establish a sort of subtle realism as an epistemological basis for their research. This may be seen as having made the task of appraising the validity of qualitative research findings clearer. This is because, as Hammersley (1992) notes, assessing the validity of the results of qualitative studies in terms of their relevance to or integration with practice - the criterion which most critics emphasise - can be more problematic than assessing their validity on the basis of subtle realism. However, few have argued explicitly against the possibility of such criteria. They accept that social reality is mind-constructed and that there are multiple realities (Smith, 1984:383). In the light of this assumption the reality of the phenomena studied can be dependent on the researcher's perception and interpretation of it. This assumption is congruent with the constructivist point of view in which the

world we know is a particularly human construction. That is, what we know of reality is only what we have come to believe, not what we have verified outside our experience. How case study researchers should contribute to their readers experience depends on their notion of knowledge and reality. Stake argues that:

> We may conceive of three realities. One is an external reality capable of stimulating us in simple ways but of which we know nothing other than our interpretations of those stimuli. The second is reality formed of those interpretations of simple stimulation, an experiential reality representing external reality so persuasively that we seldom realise our inability to verify it. The third is a universe of integrated interpretations, our rational reality. The second and third, of course blend into each other (Stake, 1995:100).

This means that each human being has her/his own version of second and third realities and these are ever changing. The aim of research, Stake believes, is not to discover the first kind of reality because it is impossible, but to construct a clear reality of the second kind and a more sophisticated rational reality (the third type), specifically one that can withstand disciplined scepticism.

Although it may be true that human beings have multiple ways of perceiving and interpreting reality, this does not mean that there are multiple realities, as constructivists emphasise. In the external world, every entity in itself has its own unique reality which different people perceive differently. Because of this Stake observes:

> Science strives, to build a universal understanding. The understanding reached by each individual will of course be to some degree unique, but much will be held in common. ...We seek the well-tuned reality, one bearing up under scrutiny and challenge (Stake, 1995:102).

He says that following a constructivist view of knowledge does not require the researcher to avoid delivering generalisations. In his view constructivism justifies the inclusion of a substantial quantity of narrative description in the final report of a case study-based piece of research.

Since the assessment of findings of qualitative (and all other) investigations necessarily involves judgement there is always a potential challenge to their truth. This is further pointed out by the fact that the personal construction of reality of every informant is not equally important either epistemologically or socially. But Stake (1995:102) asserts that 'people have ways, not infallible but practical ways of agreeing on which are the best explanation. So do philosophers'. For this reason Rorty (1984) suggests that the aim of inquiry should be solidarity rather than truth. The problem with this is that the issue of whether some claim is treated as true or trustworthy is determined by our judgement as to the balance of our interests, whether the desire for solidarity with those we currently disagree with outweighs our desire for solidarity with others and our other preferences. Personal civility or political ideology may call for respecting every view and solidarity, but the results of case study research do not. It is not, Hammersley (1992:29) remarks, a convincing epistemology. 'Widespread development over the last twenty five years of qualitative research has been a product of epistemological criticism' (Crossley and Vulliamy, 1997).These epistemological debates among philosophers have not been, and are not today, a dialogue between only two positions; the arguments are more diverse and complex (Hammersley, 1992). Thus, contrary to Rorty, there is no escape from epistemology.

It can be concluded that the principle of relativity is strong in qualitative case study. Researchers contribute uniquely to the study of the case and audiences derive unique meanings. These and other differences are relative to the purposes of the study, the immediate situation of the case, and the circumstances of the audience. Hence, some researchers have suggested that to put an end to this kind of debate, one should simply select a combination of methods or techniques, do one's research and leave the

philosophical battle to the philosophers (Miles and Huberman, 1984). A combination of methods is, in fact, a form of triangulation that can enhance the validity and reliability of one's study. But, as Merriam (1988:2) has noted, 'troubling problems arise' when one is trying to reach conclusions across studies conducted from different paradigms.

Obviously, we make our assumptions about what is knowable and under what conditions this can be reliable knowledge. What is important here is the finding and determining those conditions. The sociological theory of phenomenology gives good support in this respect by emphasising understanding the actions of people on the basis of their active experience of the world (Burgess, 1984). It depends on, as Stake (1995:103) indicates:

> How much the researcher participates personally in the activity of the case, how much he poses as expert, how much is neutral observer and critical analyst, and perhaps more important than those how much will the researcher be her/himself?

Therefore to understand how people construct their reality, as King (1979:3) recommends, we really need to get inside the skin of other people. It is argued that such an approach can contribute to the construction of theory by bringing to bear on the local knowledge gained the interplay of academic insights and researchers working on selected problems or topics, by means of comparative analysis using different disciplines (King, 1979:15). This theoretical perspective supports a predominately qualitative case study strategy to research in the social sciences. To examine the potential of this strategy for the present study and overcome the traditional criticism, I have sought to create an appropriate research design that will maximise the quality of outcomes. This design includes logical sequences, as Yin, (1994) suggests, that link the collected data to the main questions of the research. Such sequences, whether

explicit or implicit, strengthen every research investigation, and this case study is no exception. Effort has also been made to minimise the inevitable limitations, thus enhancing the validity of the research.

Research Design: Payame Noor University, A Case Study

A research design is at best a compromise between the aims of the study, the resources available, and the feasibility of the area of the study. The main purpose of the research is:

> ... to help to avoid the situation in which the evidence does not address the initial research questions. In this sense a research design deals with a logical problem and not a logistical problem (Yin, 1994:20).

Designing case study research was a real challenge to the researcher because there were few set procedures or protocols - such as in quantitative kinds of research - to be followed step by step. In the literature, of course, there are guidelines and the experience of others to help, but it is not always a simple matter to gauge the correct way to proceed. Decisions have to be made as to what precisely constitutes the case, how data will be collected, who will be interviewed, what documents will be read and so on. These procedures are usually far from routine. One pitfall to be avoided, Yin(1994:19) recommends, is to consider case study designs as a subset or variant of the designs used for other strategies. He covers new methodological ground, describing a basic set of research designs for doing single and multiple case studies. Although this model is not a complete one and, as Yin himself states, 'needs to be continually modified and improved in the future', in its present form it is, nevertheless, helpful in aiding the design of more rigorous and methodologically sound case studies.

The design for the present case study, therefore, was adapted from Yin (1994), in the light of the contribution that this study seeks to make towards our improved understanding of the process of policy making and policy implementation in PNU as the only distance education university in Iran. The components of this design are presented graphically in figure 4.1. This figure shows the operational procedures of pre-fieldwork, fieldwork, and post-fieldwork phases as well as the relationship between and the sequences of these procedures.

The research process as shown in figure 4.1 included three distinct phases: pre-fieldwork, fieldwork and post-fieldwork. Before discussing the operational procedures in detail it is worth outlining each of those phases below.

Phases of the Research Process

The Pre-fieldwork Phase

It is hard to say at which point a research study actually began. Before research begins, the researcher is inevitably socialised into a field or discipline with its own vocabulary, concepts, and theories (Goetz and Le Compte, 1984). One begins to think like a member of the field and to view the area of research through its own 'glasses'. This means that traditionally the literature review constitutes the real start of the research. It is argued that the review of literature affects the nature of the questions raised, which in turn influences the research design and strategy, which then influences the conclusions drawn. This does not, of course, mean that the researchers start to review literature with a blank mind. Conversely, while they may have identified their own problems and questions, the review should enable the researcher to formulate their research design, to clarify their questions and, especially for qualitative researchers, to avoid the danger of adopting overly pre-conceived ideas.

Figure 4.1 Research Design: Case Study of PNU in Iran

Pre-fieldwork

Biographical factors
• Personal research interests and educational experiences

Developing Research Questions
• starting with foreshadowed research problems

Developing the framework for analysis
• Theoretical underpinning;
• literature review

Developing Research Methodology
• Phenomenological and constructivism perspective
• Largely qualitative oriented case study

Fieldwork

Selecting the Case for the Study

Designing data collection protocol
- Gaining access
- Ethical issues

Data Collection Methods
- In-depth interviews
- Documentary analysis
- Observation

Fieldwork Data collection October - November 1995

Initial data analysis

• Further interviews with some of the Informants
• Collecting further information

Post-fieldwork

Data Analysis
• Writing case study report
• Revisiting the relevant international literature
• Presentation of data
  - Context
  - Policy
  - Practice

Discussion of findings
• characteristics of PNU as a mega-university
• Industrial theory in action
• Policy making
• Policy implementation

Implications for:
• Policy and Practice of PNU
• Change processes in Distance Education
• D. E. Literature International Theory
• Further research

Adapted from Yin (1994)

This latter point is specially pertinent with regard to qualitative research (see Crossley and Vulliamy, 1997). Researchers should have the opportunity to make critical and corrective contact in the context with those who know the subject. Hence, attempting to view social phenomenon through the eyes of the people being studied has to be consistent with a qualitative research strategy that acknowledges relatively open-ended approaches, guided by 'foreshadowed problems' (Malinowski, 1922), rather than one which has been pre-determined in advance. Malinowski claims that we can distinguish between arriving with closed minds and arriving with an idea of what to look for. Acquaintance with the problem

> ... is not identical with being burdened with preconceived ideas ... but the more problems the researcher brings with him/her into the field, the better he/she is equipped for the work. Preconceived ideas are pernicious in any scientific work, but foreshadowed problems are the main endowment of a scientific thinker, and these problems are first revealed to the observer by his/her theoretical studies. (Malinowski, 1922:9)

The procedures adopted for the literature review for this study have been explained in Chapter One. While it is argued that the literature review can help the researcher to generate a research problem, Burgess (1984) argues that the relationship between the methodological training of researchers and their personal experience in the area of research can help them to do so too, and enable them to design a programme of research. Literature on research methodology was, therefore, extensively reviewed with a view to clarifying research strategies and techniques because:

> ... knowing what research designs have been used before with what success, can save an investigator from wasting time and money (Merriam, 1988:63).

The review of the literature on case study and qualitative research in particular helped the researcher to justify the adoption of the case study strategies for the study of the PNU, the only distance education university in Iran. The philosophical and

epistemological position taken thus helped determine the choice of the data collection techniques of in-depth interview, documentary analysis and observation. This also facilitated the collecting of thick and rich data which can help readers to relate research findings to their own experience. The choice of the case for study, as mentioned earlier, was motivated by uniqueness, typicality, accessibility, and familiarity with the setting.

The Fieldwork Phase

Gaining access to the study site is fundamental to the success of any research process. This access normally affects relations between the researcher and the researched and ultimately the type of information one is likely to obtain. Since the researcher was involved in the management of PNU and known personally to almost all staff, entry into the field was easily accomplished. Then, the broad scope of the study, its methodology, and the potential contribution of the results of the study to the future of the university were discussed with the key informants individually. A copy of the research proposal was also distributed to those who were interested. With regard to presenting the study, Burgess recommends that:

> ... a clear indication should be given of those aspects of the setting on which you intend to focus and those individuals with whom you intend to work more closely. In particular, attention should be drawn to the implication of your work for the setting and those within it (Burgess, 1984:50).

During this procedure the researcher gained their permission to have the interviews tape-recorded.

The main fieldwork was conducted over a period of about nine weeks (during 30th of September and 16th of November 1995). The original plan for the fieldwork was revised so as to meet the requirements of the situation. For example, the re-allocation of four full days to participate in the Regional and Local Study Centres Principals'

seminar in Ghazvin was necessary. Also archival work and attendance at meetings for observation purposes had to be re-scheduled to fit in with, when and where it was possible to do this. Furthermore some days had to be left free for changes in meetings and interview schedules.

The fact that as an insider-researcher, I was known in my former role within the university had the potential to inhibit some of the informants. Some assumed that I already had greater knowledge of events and procedures than was in fact case. Thus there was a risk that some information would not be shared. This is what Stake (1995) calls the 'reversal of the situation' against which insider researchers are frequently cautioned. There was no intention to take things for granted or overlook situations that at first sight might appear familiar. The use of the semi-structured interview technique with an interview guide was helpful in dealing with this situation and in discussing the necessary issues with the informants. Documentary materials were also used to fill the gaps and corroborate these findings.

The Post-fieldwork Phase

The analysis of the data was the central task during this stage of the study. The methods of data analysis were informed by the approach to qualitative data analysis supported by authors, such as Hammersley and Atkinson (1989), Miles and Huberman (1991), Bogdan and Biklen (1992), Vulliamy and Webb (1992) and Stake (1995). They argue that qualitative data analysis is an ongoing process which begins in the pre-fieldwork phase and continues in the field through to the post-fieldwork phases. The process approach, that is the creation of an interactive relationship among data collection, analysis, conclusion drawing and writing up, adopted for this study improved the quality work overall - and the findings as such are presented in detail in

the chapters five and six. This was further enriched by revisiting the relevant literature.

The Development of The Research Questions

As stated in Chapter One, this study has its origins in the problems that the researcher encountered during his work at PNU as a Vice-chancellor. It also stems from the experience gained when the researcher was a member of a group which was enjoined to prepare a new plan for establishing and developing a distance education university based on the previous experience of the Free University of Iran, as well as the Correspondence College of Abureyhan Biroony University where the researcher had worked as a lecturer and in an administrative capacity for ten years.

These official positions provided me with numerous opportunities to attend meetings, seminars, and conferences in and beyond the country on issues related to distance education. Most of these meetings indicated that policy makers and practitioners of distance education in Iran, as well as in some other Asian countries, did not pay sufficient attention to the importance and unique requirements of distance education. For example, the operation of the first two higher level institutions of distance education in Iran were suspended after the revolution, partly because of the lack of awareness of higher education policy makers about its importance, irrespective of political reasons. This prompted me to examine the PNU as the only distance education university in Iran to provide a more theoretically informed critique of its overall mission and planning and management.

The generation of the research questions outlined in Chapter One, therefore, has resulted from the interaction or juxtaposition of personal experience with insights from a critical review of the international literature on distance education generally

and on its planning and management in particular. This juxtaposition, it is argued, invariably creates new insights and questions. The first stage of the literature review turned out to be perplexing and challenging to the mind. For example, much of the literature on distance education states that distance students are self-directed and independent, therefore they can manage and evaluate their own learning. However, my own experience revealed that the majority of them in my university did not know how to take control of their learning. In another case the literature on planning and management emphasised the role of preliminary planning in distance education institutions for ensuring their future efficiency. We had started our operation at PNU without such planning in the initial phase of operation, apparently without problems. These issues led me to a consideration of distance education theories and other relevant literature. This yielded more insights and created an opportunity to evaluate personal experience in the light of the international literature. This process extended my research plans from an almost intuitive feeling for the problem to the form of the question: What happened in the planning and management of my university's early days of operation and why and how? This in turn, helped me to rationalise the study and establish other relevant questions, as well as confirming my choice of research strategy.

Glaser and Strauss (1967:3) declare that the researcher 'must have a perspective that will help him see relevant data and abstract significant categories from his scrutiny of data'. Now this perspective was clearly in my mind as I decided to frame the investigation in terms of questions rather than hypotheses. Thus, research questions were, firstly, framed within the wider context of the subject of study, then they were translated to a more detailed fieldwork schedule adapted from case study questions

developed by the International Extension College (IEC) (see Appendix 1). The fieldwork was, therefore, not approached from a position of total ignorance of the relevant international literature or from knowledge of the Iranian distance education system. During the early stage of fieldwork a number of issues were identified in relation to which I thought some of the original questions might need to be changed or improved. It is hoped that other aspects of this university will be studied by other researchers, and that the findings of this study will pave the way for them as well as prepare the ground for future comparative studies.

Selection of the Case

As stated earlier, the nature of the research questions led me towards a largely qualitative approach to case study as an appropriate research strategy. What makes the inquiry a case study is 'the decision to focus an inquiry around an instance' (Adelman et al 1983:2). This instance or case (PNU) had, in fact, already been chosen on the basis of its familiarity and accessibility to the researcher. The selection, methodologically, was not based on any form of sampling, because the case is the only one in the country. The selection problem related rather to decisions on sampling the sub-cases or units of analysis within the main case.

There were, potentially, many units of analysis which could be chosen. This selection, Yin (1994) argues, 'is related to the way the initial research questions have been defined'. Appropriate units of analysis, therefore, were selected with reference to the research questions. In this respect the use of Peters' (1967) theory and Hodgkinson's (1991) leadership model helped the researcher to identify and define the units of analysis and ways of dealing with the research questions. Two major units, then, were

identified for analysis, namely policy making (planning process) and policy implementation (management process) at PNU. Hammersley says that:

> ... as the number of cases [or units of analysis] is reduced the amount of data that can be collected on each [unit] is increased, and the chance of there being error in the information probably reduces too. (1992:186).

This is why some researchers have a tendency to shift from a survey to a case study strategy. Of course, this is relative to the relationship between resource demands and the resources available. However, as Hammersley (1992:187) observes, with lavish resources we would be able to maximise the detail and accuracy of the information available. This is not possible without reducing the units of analysis. The other dimensions along which selection of the units of analysis was made in the case included time and context. With regard to time, the first consideration was the logical distribution of the whole fieldwork time among the activities based on their importance and demands on time. Secondly, how long it is necessary to spend on interviews, observation, field notes, and primary analysis of data. As regards context, attendance at the seminar of the regional and local study centres' Principals held in Ghazvin (located 85 miles west of the capital city, Tehran) from the eighth to tenth of October 1995 was arranged. Participation in this seminar created an exceptional opportunity for the researcher to meet all regional and local study centre principals and to hear their experience at first hand.

Data Collection Techniques

Data are, in fact, no more than ordinary bits and pieces of information found in the environment. Whether or not a piece of information becomes data in a study depends on the interest and perspective of the researcher and the aim of the research. The

nature of this study made the intensive use of qualitative data necessary. Qualitative

data consist of:

> Detailed descriptions of situations, events, people, interactions, and observed
> behaviours; direct questions from people about their experience, attitudes,
> beliefs and thoughts, and excerpts or entire passages from documents,
> correspondence, records, and case histories (Patton, 1980:22).

Three main techniques were adopted to collect the data. These are in-depth interviews,

document analysis, and observation combined with reflection on experiential

knowledge based on intensive immersion in the setting prior to the period of

fieldwork. The great value of case study, it is argued, is its employment of multiple

sources of data that can come to hand by using multiple techniques of data gathering.

The use of multiple techniques of data collection is a form of triangulation (Denzin,

1970; Mathison, 1988; Hammersley and Atkinson, 1989; Yin, 1994) that is valuable

in presenting a substantial body of findings leading to interpretation. The problem of

triangulation, Stake argues, is complex 'because so many qualitative researchers

subscribe a little bit or a lot to an epistemology called constructivism (Stake,

1995:108). According to this epistemology, which was discussed previously in this

chapter, there are multiple perspectives or views of the case that need to be presented

but, as Stake (1995) argues, there is no way to establish, beyond contention, the best

view. Being accurate in presenting things and logical in interpreting the meanings of

those things is the only way of avoiding such conflicts. We need, therefore, certain

procedures through which the researcher and his/her readers alike may establish the

validity of the data gathered. Qualitative research have no all purpose term for this

procedure. 'Some spoke of "corroboration" or, somewhat loosely, of "cross validation"

or of multiple validation procedure, to ensure the dependability of a field study

finding' (Miles and Huberman, 1991:234). Webb et al. (1965) employ the term

triangulation for this procedure which comes from the field of surveying. It implies

that three elements of a triangle are known. Triangulation in qualitative research

requires additional information, which may be data from an actual third source, or

information about the trustworthiness of two sources drawn from other data. This

somewhat resembles detective work. When a detective collects fingerprints, hair

samples, alibis, eyewitness accounts and so on, a case is being made that presumably

fits one suspect far better than others.

Four kinds of triangulation are presented by Patton (cited in Yin, 1994:92): data,

methodological, theory and investigator triangulation. Methodological and data

triangulation are used to obtain the needed confirmation, to increase credence in the

interpretation, and to demonstrate commonality of the assertions, of this study.

Methodological and data triangulation combine dissimilar techniques such as

interview, documentation, and observation to study the same unit. Figure 4.2.

indicates the techniques for gathering data and convergence of multiple sources.

Figure 4.2 Data Gathering Techniques and Convergence of Multiple Sources of Evidence
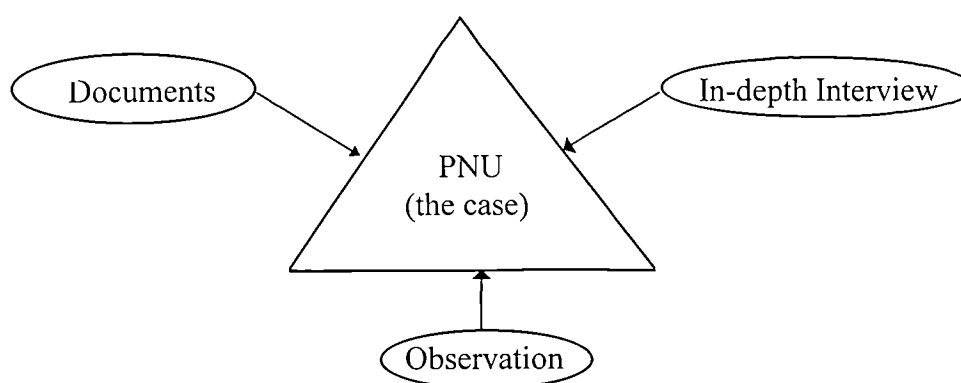
The rationale for this strategy, Denzin (1970:308) argues, is that the flaws of one

method are often the strengths of another. The opportunity to use multiple techniques

and/or multiple evidence allows the researcher to address a broad range of data about

133

the case under study. Thus any findings or conclusions are likely to be more convincing and accurate, enhancing the validity and reliability of the study. For instance, at the field site of the PNU, I found what appeared to be a harmony or co-ordination among the various bureau of the university. Most informants I talked with made this claim, and occasionally my observation confirmed this. But when I considered the meeting minutes of the university's general directors and the students' reflections in local and national journals and newspapers I realised that there are few unproblematic administrative links among the various sections of the university. Details of each main method or techniques are now considered.

In-depth Interviews

In-depth interviews are a common means of collecting qualitative data which is used extensively by case study researchers. In any research an interview is a 'conversation with a purpose' (Webb and Webb quoted in Burgess, 1982:107). 'If viewing means perceiving, then the term "interview" refers to the act of perceiving as conducted ... between two separate people' (Brenner et al, 1985:148). Interviewing, then, provides a basis within which people can interpret the world around them from their point of view which in turn paves the way to mutual understanding. It can also allow the researcher to understand the respondent's personal perceptions of the issues as they relate to the case under study.

There are three basic approaches to collecting data through interviews. One of them is the *structured* interview, which involves more structured questions, along the lines of a formal survey. It is often used, therefore:

> ...when a large sample is to be surveyed, when hypotheses are to be tested, or when quantification of results is important (Merriam. 1988:78).

The other two approaches are used when the sample is not too large and an in-depth knowledge is required. These two are: the unstructured, open-ended and semi-structured interview. The *unstructured open-ended* interview is where the researcher can ask key informants for the facts of a matter as well as the informant's opinions about events (Yin, 1994). This type of interview is particularly useful when the researcher does not know enough about the phenomenon under study to ask relevant questions. Thus the interview is essentially exploratory. One weakness of the unstructured open-ended interview is that it requires a great amount of time to get systematic information. Hence, it is rarely used as the sole means of data collection. The *semi-structured* interview is often used where certain information is desired from all informants. This interview 'may still remain open-ended and assumes a conversational manner' (Yin 1994:85) but is guided by a list of questions or issues derived from the case study protocol. Thus the topics and issues to be covered are specified in advance, in outline form. This is a practical but flexible approach, within which the researcher is able to decide about the sequence and wording of questions in the course of the interview.

> This format allows the researcher to respond to the situation at hand, to
> the emerging world view of the respondent, and to new ideas on the topics
> (Merriam, 1988:74).

For these reasons, the semi-structured interview was adopted as a main technique for data collection in this inquiry. Written guidelines were based on issues identified from the detailed questions for the research. These guidelines (see Appendix 2) helped to increase the comprehensiveness of the data and make data collection more systematic for each informant in a single session of interview. Furthermore, 'logical gaps in data can be anticipated and closed' (Patton, 1987).

Tripp (cited by Rudduck in Burgess, 1988:112-13) is critical of this technique arguing that the single interview affords only limited opportunity for the informants, given the strangeness of the interview situation to formulate responses that represent the meaning they would like to acknowledge. The single interview, Tripp says, suits the person whose views are already well-formulated and rehearsed. However, he suggests a strategy that might help to equalise the status of the views offered and proposes a series of discussions that would allow time for the informant to develop and reflect on the ideas offered, and would enable the informant to take some responsibility for potentially significant areas of experience (that the informant might remain silent about) to be recognised and explored. The implication is that only unstructured open-ended interviews should be used. Tripp's point is persuasive and worthwhile, but it has its own limitations especially for the present study which has employed condensed fieldwork and therefore imposes time constraints.

In practice, the semi-structured interviews used have started without any notable problems. The fact that the interviewer was known to all informants but two helped him to dispense with the use of some of the conventional prescriptions recommended in the literature. Reference was made earlier to the pool of questions compiled as an interview guide for the researcher's own use (see Appendix 1). From this pool separate agendas were prepared for each informant, covering the issues that would be discussed during the interview (see Appendix 2). Patton confirms that:

> The interview guide provides topics or subject areas about which the interviewer is free to explore, probe, and ask questions that will elucidate and illuminate that particular subject. ... the interview guide simply serves as a basic checklist during the interview to make sure that all relevant topics are covered (Patton, 1987:112).

In all cases but one, where the pencil/paper technique was used, interviews were tape recorded. The informant who did not wish to be tape recorded, asked also to be given an aide-memoir so as to guard against impromptu discussion. Though it was not the research policy to give an aide-memoir to any informants, there were three other informants who asked for this too. I had to do so, otherwise they would not have agreed to be interviewed. Thus, a number of basic questions which were worded quite precisely were handed to them, reserving more flexibility for the interviewer to probe and freedom in determining when it was appropriate to ask questions in greater depth, or even in venturing into whole new areas of inquiry that were not originally included in the aide-memoir.

Some of the informants considered the study important to the PNU's future, especially because it was the first one carried out in the university. They tried to provide an honest and critical perspective and give their first hand information. In contrast, some others were not relaxed with the tape-recorder. In spite of my attempts to create a friendly atmosphere they spoke formally and sought to terminate the interview. I realised that their perspective was artificially positive and they were not critical. To tackle this problem I decided to change tactics and use a more informal approach (in offices, corridors, self-service lunch hall and so on) wherever opportunities came to hand. I used my previous knowledge and experience to 'open the door' and used indirect approaches to stimulate discussion. This tactic was time consuming but successful. In such conversations informants were more critical, more open, and more explicit. Patton comments on this strategy stating that:

> This approach is particularly useful where [the interviewer] can stay in the situation for some period of time, so that he or she is not dependent upon a single interview to collect the information needed. ... the strength of the informal conversational approach is that it allows the interviewer to be highly

responsive to individual differences and situation changes. Questions can be individualised to establish in-depth communication ... (Patton, 1987:110).

A major problem concerned thinking through the ethics of the situation. How should informants be informed that their comments would be used as a source of data? In practice they were told that their comments were very important for my study and I asked them if I was permitted to use their comments as a source of data. Fortunately, all of them agreed to the proposal. They had no objection, perhaps for the very reason that all information would be oral and not recorded in their presence. But in all conscience I was anxious to avoid improper use of what I learned. I apologised to all of them, there was no chance of avoiding this little intrusion. I had planned to have a single session of interviews with each informant. The data collected by interview was reviewed to identify areas of ambiguity or uncertainty and to ensure that all necessary data had been collected. This period of study was a critical time of reflection and elaboration. As Patton (1987:140) stresses, it is a time of quality control to guarantee that the data obtained will be useful, reliable, and valid. Another session of interviews was, therefore, arranged for those who had further information or who had not been able to explain everything in a single session. Additional sessions were also arranged when a new insight was attained during the course of interview and in reviewing the data. This tactic helped to removed many ambiguities and helped to cover the areas requiring further investigation. Each formal interview session lasted on average seventy-five minutes, except for two one of which lasted over two hours, and the other about three hours over two and three sessions respectively. The interviews took place at suitable times in informants' offices where it was most convenient for them. Overall, twelve informants were formally interviewed. The detailed information about

the focus of specific interviews drawn up to match informants with relevant topics related to their experience and the date of interviews is given in Appendix 2 and 3.

The last point to bear in mind is that the familiarity of the researcher with the site of study and his informants raised a potential problem in that they might remain silent about some important points to avoid discussing issues they believed I already knew about. This risk was countered by simulating ignorance and adopting the position of a naive outsider. It seemed that this was a more natural way to proceed for an insider researcher. Generally speaking all of the informants were co-operative. Some of them were even pleased to share their experience with the researcher and to have their story known. The atmosphere of all of the interviews (with minor exception) was therefore relatively relaxed and quite friendly.

Document Analysis

A document has been defined in the broad sense as any communication (Guba and Lincoln, 1981) or as official and semi-official records (Holsti, 1969), public records, physical traces (Webb et al, 1981), and artefacts (Goetz and Le Compte, 1984). In this study documents have been defined as written materials (Fetterman, 1989) and have been chosen as a second major source of data. The usefulness of documents is not related to any implicit accuracy or lack of bias but is based on their stability, in that they can be reviewed repeatedly. Yin (1994:81) notes the overall value of documents in case study research by emphasising their explicit role in corroborating and augmenting evidence from other sources. Documents may yield both qualitative and quantitative information. What is important in document analysis is understanding that:

It was written for some specific purpose and some specific audience other than those of case the study being done. In this sense the case study investigator is a

vicarious observer, and documentary evidence reflects a communication among other parties attempting to achieve some other objectives (Yin, 1994:82).

Identifying these considerations helps the researcher to avoid being misled by documents and to be critical in interpreting the contents of such documents. Congruency between documents and the research problems depends on flexibility in constructing the problems and related questions. Such a view is particularly relevant to the present case study which has used document analysis as one of the main techniques.

Permission to access relevant documents was gained from the Chancellor of the University during the first meeting of the researcher with him. This permission from the highest authority of the university facilitated gaining access to all primary source documents necessary for the study. The documents were collected both before and after the gathering of oral evidence by interview. Key documents include those that are relevant to the establishment of the university such as papers on the original rationale for initiation, the original educational objectives, the university's legal and constitutional status and organisational and administrative structure. Some other documents, such as minutes of meetings, were considered during and following the interviews in the light of informants' comments or recommendations. Other relevant sources were considered in order to gain additional data or confirm evidence for specific details obtained by other means.

Consideration of some documents before the interviews helped me in the refinement of the interview guide as well as with the preparation for the interviews, by providing initial insights into the perceptions and perspectives of informants. This knowledge was useful in formulating probes to explore or challenge in more depth some of the views which might be expressed during the interviews. There were also some

questions in the pool of the detailed questions (see Appendix 1) which might be answered merely by document analysis. As well as using this technique to corroborate other techniques, it was used as the main means of studying certain problems such as, financial budgeting, organisational rules, and so on. Efforts were also made to study national development planning documents in the higher education sector at the library of the Planning and Budget Organisation (PBO) of Iran. Details are available in the list of references presented at the end of the dissertation.

National and provincial educational journals and newspapers as well as university newsletters were examined at the central library of the PNU in order to find further relevant information. Consideration of these documentary sources yielded historical and statistical data as well as the opportunity to see PNU through the public eyes. They also helped to strengthen the reliability and validity of data gained from interviews.

Observation Combined with Reflection on Experiential Knowledge
Observation was the third main technique for data collection applied in this study. I use 'observation' without any adjective because of its unique characteristics in this study. That is, it was neither purely direct nor participant observation, as they are considered in the literature. In fact I observed every situation of potential interest during the course of the fieldwork both directly and in a participatory capacity. To some extent this may have been viewed as the normal activities of one involved in the management of the university, as if had resumed my previous work.

Here, observation is a research tool that serves to formulate research purposes in the field, and to check or control the validity and reliability of the data gathered by other techniques. This is what Vulliamy lays stress on in declaring that 'what people say in

interview can be checked out by observation of their practice' (Vulliamy et al, 1990:150).

Observation was carried out in an informal and unstructured form throughout the fieldwork to gain a new and/or clearer perspective about what really was going on in the university, so as to confirm or contradict issues that arise either in the literature or within with reference to the interviews undertaken in the university.

My previous experiential knowledge and familiarity with the case helped to provide a conceptual framework for determining what to observe. Goetz and Le Compte comment on this in stating that:

> The data begin to emerge as the ethnographer interacts in the daily flow of events and activities, and the intuitive reactions and hunches that ethnographers experience as these factors coalesce (Goetz and Le Compte, 1984:112).

The researcher's previous position at the university gave legitimacy to participation in or attendance at the meetings of the Chancellor with the Vice-chancellors of the university, academic board, administrative and finance committee, and fortnightly meeting of General Directors. The researcher was also invited by one of the Vice-chancellors to participate and play a role at two occasional meetings. My perspective in observing events around the site was based on insights gained from personal experience as well as the related literature, thus enhancing the quality of data, and hence the quality of research outcomes. The questions of who, where, and what should be focused on were matters which were resolved during the fieldwork. I had some pre-determined subjects to focus on. These were managers' meeting sessions at various levels, and university council sessions, which were held occasionally, but unfortunately none took place during the course of fieldwork. The taking of notes at these meetings, sessions, and other places in the university was followed up with

document analysis or through subsequent elaboration and explanation by committee members. The shift from the classic form of observation and a limiting of the use of it, however, is deliberate, firstly because of a desire to minimise the incidental bias that might emerge from my familiarity with the case as an insider researcher, and secondly because of the intensity of the fieldwork and time constraints. However, this reflects 'the dominance of researcher's eye' (Stenhouse, 1982) that can scan the area and capture the significant moments like a camcorder no matter how limited these opportunities may be.

In the process of observation there were long periods where nothing of great relevance to the issues in question occurred and I could find nothing to open up the case in any depth. In this attempt to capture some new angle in the interpretation and gain some fresh insight that could not be grasped through other means. I did eventually find some key clues that might influence subsequent analysis. Every effort was made to avoid interpreting the relationships along the way, wary that moving too soon to that level of thinking might challenge the objectivity of the study.

Terminating the data collection was extremely difficult. It was, indeed, an ongoing process that could have been extended indefinitely. There were always some people to be talked to, some more documents to be consulted, and something more to be observed. This phase ended only because of the expiry of allotted time, not out of any feeling that fieldwork was complete. A decision has to be made at some point to end the data collection phase and proceed to organise findings for intensive analysis. The fieldwork started in 30th of September 1995 and ended in 16th of November 1995.

The Case Study Data Base

In many case studies, the distinction between an independent data base and the case study report has not been clearly identified. That is, 'the case study data are synonymous with the evidence presented in the case study report' (Yin, 1994:95). Some critics consider this as a major shortcoming of case study research. Stenhouse (1978:33) argues that, in spite of the considerable interest in the qualitative case study, the lack of a separate data base often detracts from the credibility of such studies. Yin (1994), who advocates the case study strategy, suggests that it is better that case study researchers establish an independent data base which is retrievable for others. This data base or 'case record' (Stenhouse, 1978, 1982) can serve as a grounding for the researcher's own reportage and 'as a resource for communal use by the community of educational researchers' (Stenhouse, 1978:33). It can also help to increase the reliability of the case study (Yin, 1994).

One initial problem faced in establishing a data base for this case study was the language of the data. Written documents and interview recordings were all in Persian and would have required translation into English. This means that the researcher would have had to spend excessive amounts of time transcribing and translating the interviews and the documents and some of the field notes which were taken in Persian. The researcher would also have had to make extensive editorial changes to make these materials presentable. This is recommended by at least one author (Patton, 1980:303), but it may influence the result of the study because translating and editing may change the character of the data. It was decided, therefore, to translate and transcribe the interviews and make a summary of those key documents that were consulted. In doing so efforts were made to protect the originality of data.

Data Analysis

Data analysis consists of 'examining, categorising, tabulating, or otherwise recombining the evidence' (Yin, 1994:102) to address the initial questions and aims of a study. Since a general analytical framework is in place, and the basic priorities for what and why to analyse have already been determined (see Chapter One). The initial analysis of data (Stainback and Stainback, 1988) started during data collection, indeed, it was an ongoing part of data collection. This analysis yielded immediate insights in the field which, as Bogdan and Biklen (1992:154) argue, leaves the researcher in a good position to do final analysis.

In the beginning stage of data analysis unitising the data, as Lincoln and Guba (1985:344) state, is important to identify units of information that would sooner or later serve as the basis for analytic categories. In this stage all the data were like grocery items which could be categorised into numerous categories. The best way forward was seen to involve returning to the research proposal to follow the analytical framework of the study. There were two main themes at this level, namely policy making and policy implementation: these included theoretical underpinnings, and the planning and management and monitoring strategies of the university. These main themes were assigned the letters of 'A' for the first and 'B' for the latter and A1, A2,... , or B1, B2... for their sub-categories, the relevant units of data being amenable to allocation to each of these categories.

The next step involved sorting the data into these main themes. For this purpose, using a setting/context code (Bogdan and Biklen, 1992), each informant was given an alpha-numeric code which identified the informant and provided the number of the interview and the year of fieldwork, for example, MRH-1-1995. The documents

which were consulted were given a number and the letter A, B or AB based on their contents. For example, document 3-AB indicates that document number three contains some information about policy making (A) and policy implementation (B).

The third stage was identifying the units of data. To establish the units of data, the research questions were used as an appropriate guide which were well matched with the main themes and fairly comprehensive categories, each of which could be further sub-divided according to the given sub-questions. Thus, the pre-fieldwork stage of the study and the process which led to the formulation of research questions and selection of key issues and themes was helpful in bringing order, structure and meaning to the data.

The interview transcripts, documents and field notes were then, read through several times. The content was examined carefully in seeking significant themes and factors that emerged relating to the theory, planning, and management of PNU. Then, the content of each interview transcript was categorised under the specific topics or subjects as a unit of data. An alpha-numeric code was allocated to each unit of data, which identifies the number of unit, the number of interview, and the topic and / or subject of the unit; for example, 1-1-A2 indicates that the first unit from the interview one about the subject of theoretical underpinning of PNU comes under the topic of policy making. The data, were thus allocated to specific codes and categories using the 'cut and paste' technique. Some information in data which did not fit neatly into any of the categories was classified under 'general information' for subsequent use. The categories were flexible and were modified as further data analysis occurred. All the study files are retained as separate confidential documents.

Data Analysis Process

The process of focusing, selecting, coding and transforming the raw data made it possible to establish a categorised data base for analysis. That is, the large amount of unorganised data were reduced into a manageable and analytically meaningful body of data. Data reduction, it is argued, is a logical part of data analysis in qualitative research because processing of large amounts of data is very difficult and time consuming. Miles and Huberman (1991:21) remark that:

> Data reduction is a form of analysis that sharpens, sorts, focuses, discards, and organises data in such a way that final conclusions can be drawn and verified.

During the processing of data new ideas and themes emerged in my mind. Writing these ideas down and deciding which data in which form should be referred to in justifying ideas or possible conclusions was helpful in presenting the findings. Analysis of the document-based data concurrently with the interview-based data and field notes, developed a logical chain of data which led me to reach overall conclusions that were, analytically speaking, greater than the sum of that data.

A further review of the literature on particular themes and issues which were seen to be relevant to the emergent and analytical themes but which had not been considered or reviewed in-depth in the pre-fieldwork became necessary at this stage. Vulliamy and Webb explain the value of such a later literature review during the course of data analysis

> When writing up, such secondary literature is usually interweaved with extracts from the raw data to develop and refine the analysis, rather than appearing as a separate review of the literature before a discussion of the collection and analysis of the data (Vulliamy and Webb, 1992:221).

In particular, the contemporary international literature on planning for change and flexible planning were found to be useful in understanding and analysing the

fieldwork data and in supporting the findings. It was also helpful in linking the findings to current theoretical development and to heighten their generalisability.

While a largely ethnographic route was taken to data analysis in this study, the size of the case, the amount and the type of the collected data were such that computerised treatment and analysis of data was not seen to be necessary. The data analysis process was, therefore, based on creating an interactive relationship or dialogue between the activities of data collection, analysis of data in the field, coding of collected data for final analysis, the drawing of conclusions, and the composition of the final report. This was predominately derived from the data so the data analysis process was largely inductive. The process, as shown in figure 4.3. formed an interactive cyclical process which served to verify the conclusions.

Figure 4.3 Data Analysis Process
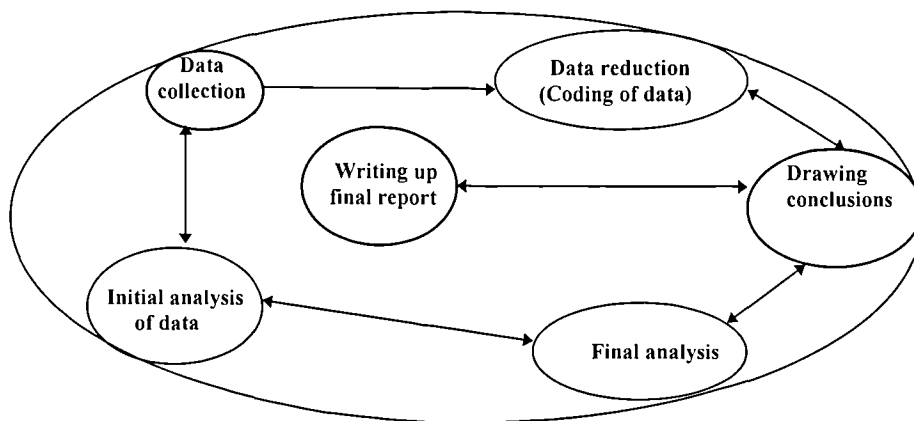
Adopted from Miles and Huberman (1991).

The Presentation and Interpretation of Data in the Islamic Context

The greatest problem that I faced in analysing this research data and drawing conclusions related to political and philosophical issues. This has profound implications for the epistemological orientation. It was the researcher's aim to make the final report faithful to the context and the broader Iranian society; and to produce a

report to the larger world that addresses not only the researchers' interests, but also the interest of those studied (Denzin and Lincoln, 1993).

According to the dominant philosophy on social sciences in my country, the existence of human beings has two aspects: the spirit, which is eternal and the essence of the existence of the human beings, and the body. From this perspective humans have therefore, two main means for their perception of the world: wisdom, which is the main power of the spirit, and experience, which is obtained by means of the bodily senses such as hearing and sight etc. This belief is grounded in the Islamic philosophy which has a dualistic view of the world and of human beings. On the basis of this world view, our world consists of spiritual and material things. The spiritual aspects of the world- that really exist- must be known by wisdom because they are not open to experience. Thus it is only the material world that can be studied by empirical/experimental methods. The subjects of the study of social sciences are, from this perspective, the individual and social behaviour of humans in general. Human behaviour as a whole typically is seen as psycho-biological, which cannot be understood by using only positivistic methods. This is why many social researchers in Iran are interested in using qualitative methods. This methodological orientation is valued not only because of its strengths in studying social phenomenon but also because of its responsiveness to ideology.

After the Islamic revolution in Iran almost everything became coloured by Islamic ideology. Apart from its influence on the daily life of the people, it strongly influenced the academic community in Iran so that this community is now divided into two distinctive groups. One of these emphasises the importance of Islamic ideology in social science research and the other does not. Qualitative methods and approaches

are, therefore, being employed in this ideologically-oriented enquiry framework as a major strategy in various areas of social research. This first group represents the majority of the Iranian social research community. Hence, any conclusions and interpretations from social research must be based on respect for the Islamic philosophy and epistemology. The second group also uses qualitative strategies but not in the same ideologically driven way as the first group.

In Islamic philosophy the final link in the chain of cause and effect goes back to God and there is no exception in the case of social phenomenon because society is, from this point of view, a natural entity and nature is created by the God. From this perspective the social sciences are overshadowed by metaphysics. The new generation of the Iranian religious intellectual community has started to think about the essence and nature of the society. They argue that in Islamic philosophy every existence has its own essence or nature and God is only the creator of things not the giver of the nature or essence of those things. A phenomenon or thing has only its own unique nature. Therefore, they cannot have another religious nature as well and if they do not have a religious nature, why should we explain them from a religious point of view? We have sociology or psychology of religions but can we have religious social sciences, that is, can there be a substantially Islamic or Christian sociology, psychology, or science. Nowadays, we are certainly witnessing the publication of an increasing number of books and articles in Iran, under the title of Islamic sociology, Islamic psychology, Islamic economy, education, management and so on.

This argument is important here because it may create acceptability problems if 'scientific' studies can be accused of positivism and/or secularism, in a very religious community. Further discussion of this issue goes beyond the scope of this chapter,

however, given this situation it is important that the researcher should remain faithful to his religious society on the one hand, and to the wider academic community on the other. There is thus a real intellectual challenge involved in creating an acceptable accord between an experience-based and wisdom-based interpretative paradigm, between science and ideology, and social sciences and metaphysics. When the international academic community changed their point of view about the natural world they applied a scientific world view to their social world. This is in turn changed their views about the society and the individual and as a result about sociology, psychology, economy and politics. Hence metaphysical perspectives on social phenomena were abandoned and researchers started to ask more 'how' questions about the phenomenon rather than 'why' questions. This major shift helped to bring about the introduction of the social sciences and contemporary approaches to rigorous empirical research. In Iran this shift is much less influential, and the application of scientific analysis to social issues remains problematic. This generates many problems for the present writer. However, since the main strategy of this research was largely qualitative, and both the researcher himself and the informants belong to the Islamic society, some interpretations are influenced by insights which obtain in an Islamic context. Nonetheless, the constructivism which underpins the epistemological orientation of this study, still presents a cross cultural challenge. Every effort has, therefore, been made to respect Iranian world views while, at the same time emphasising the accuracy of data, systematic interpretation and the consistency of reasoning in drawing conclusions.

Writing up

The final stage of the analysis of the data included the composition of this report and the discussion of the findings. Writing the final report was not separated from the analysis process but seen as a simultaneous activity. Writing up, as Marshall and Rossman (1995:119) state, 'is central to the process' in qualitative research. The themes of the analysis which were a basis for categorising the raw data, also contributed to the eventual organisation of the report. Writing up the findings of the study was an attempt to synthesise two processes: linking the findings to the aims of the study and to the theoretical literature in earlier sections of the report. The focus shifted from analysis of the particular case to discussion of the processes and characteristics of distance education at the higher education level with reference to a wider theoretical framework. The overall study can, therefore, be considered as the writer's attempt at, as Burgess (1984:83) remarks, 'blending personal experiences with theories and data in order to make some contribution to [an] understanding of the social world'- in this case, the world of distance education in Iran in the first instance- and the world of distance education in developing countries at the university level more broadly.

The findings are now presented in detail in the following chapters. Firstly, however, the context for the development of distance education in Iran is outlined to provide background information needed for a fuller understanding of the report itself.

Limitations of the Study

Since this research was done in the university where the researcher is working, it was assumed that many of my colleagues would co-operate with me. This co-operation also facilitated data collection. Asking all people to contribute their time and

knowledge to the research should be carefully agreed with them. Nonetheless, because this research was planned to include interviewing, the opportunity to arrange this without undue difficulties was a real point in favour of insider research. Familiarity with the complex interrelationships between individuals, groups, and departments in the university might, however, have made it difficult to see the wood for the trees! Therefore, more care needed to be taken to identify the particular issues which were the subject of study, especially where the researcher may feel that he already knows the answer to a question or problem which the research was exploring. As Johnson (1994: 11) points out 'Systematic research explores its subject in an even-handed way, and does not rule out the possibility of genuine enlightenment along the way'.

Despite their advantages, case studies occasionally may be biased, either by the intensity of a researcher's previous relationship with an institution or programme or by lack of such associations. In the first situation, the danger is that a researcher's familiarity with an institution or programme and its leaders may lead to an overly appreciative view of their fulfilment difficulties. Such an identification can also result in 'benefit of the doubt' judgements regarding future programme performance. On the other hand, the outside researcher typically lacks the information and experience essential to keep particular tendencies or personalities in perspective. Furthermore, arriving relatively late on the scene, at a time when memories may have declined and significant aspects of an institution's history may have been forgotten, he or she may also end up relying too heavily on the recollections and opinions of current institution leaders (Dodds and Mayo, 1992:5).

To counteract such potential biases, it was planned to combine different professional perspectives and different levels of association with PNU. Moreover, this research

was being carried out single-handedly, hence, there were many tasks to do in the field individually. In dealing with this problem, it was planned to spend existing time carefully. In this manner, the first priority was given to interviews and observation and, in view of the fact that some documents were not allowed to be taken out of the university, other documents or statistics were brought to later consideration.

Ethical issues

Although all informants were assured of anonymity and confidentiality most of them did not insist on this and one even asked for his comments to be quoted with his name attached (though this was not done). Nevertheless, due to uniqueness of the university, there remains a possibility of informants being revealed in spite of all efforts to conceal them. This is a possible ethical limitation and one that is of major importance. That is to say, it is possible for people at PNU, and even elsewhere, to identify the informants by their points of views and comments. For this reason the case study record is produced only as a confidential document in order to reduce the chances of revealing informant names. A similar resolution was reached by Louisy 1993) in her case study of higher education in St. Lucia.

The context for distance education in Iran and the descriptive report of the research findings is presented in the next chapter. This provides background information needed for a fuller understanding of the more analytical chapters that follow.

CHAPTER FIVE

The Context and Development of Distance Education in Iran

Introduction

This chapter examines the context within which distance education in Iran has developed and discusses the factors which have contributed to its development. The case study then documents PNU's origins, institutional mission, aims, legal status, organisational structure and instructional characteristics. The governance and financial frameworks within which PNU carries out its mandate of providing for the distance education needs of the Iranian community at the tertiary level are also explained. After outlining the instructional components and the types of programmes, the chapter focuses on students' characteristics and mechanisms for the assessment of their progress. This information is derived from all sources of original data collected during fieldwork and from additional documentary material studied. This is presented largely as an historical narrative - the first of its kind to be written on the PNU. In the following chapter more theoretically informed analysis is carried out in the light of the earlier reviews of the distance education and educational management literature. The structure for this chapter is based upon the structure of the detailed fieldwork questions, derived from the work of Dodds and Mayo (1993) and presented in (Appendix 1).

First, however, it is useful to consider very briefly the geographical, historical and socio-economic profile of the country to provide the background information needed for a fuller understanding of the discussion that follows.

Country profile

Geographical situation

Iran is an Islamic Republic located in south western Asia. It has an area of 636,300 square miles (1,648,000 square kilometres, sixteenth in size in the world) and is bounded in the north by the Republic of Azerbaijan and Armenia, Republic of Turkmenistan and the Caspian Sea, in the east by Pakistan and Afghanistan, in the west by Turkey and Iraq, and on the south by the Persian Gulf and Oman Sea. Iran also controls about a dozen islands in the Persian Gulf. More than 30% of its 4,865 mile boundary is sea coast (391 miles in the north on the Caspian and the rest in the south at the Persian Gulf and Oman Sea). Since about 90% of the Iranian land area is situated on a plateau and more than half of the country is covered by mountains, Iran is considered a mountainous country. Numerous mountains and vast plains have given rise to various ecological attributes in Iran. It is mild and wet in the north, cold and dry in the west, mild and hot and dry in central regions, and hot and wet in the south. A large part of the country comprises of desert lands, the biggest of which are Dasht-i Kavir and Dasht-i Lut in central and south-eastern Iran. Annual precipitation in desert regions like Yazd is about 50 mm., while it is more than 2000 mm. in Anzali in the northern region. Generally speaking, Iran is affected by the Mediterranean system which is marked by rain or snow fall starting in mid autumn and long dry summers.

History

The Iranian civilisation was founded by the Medians who established the largest empire of their time in Iran about 6000 years ago. The largest of the Persian empires were those of the Achaemenians, the Parthians and the Sasanids. Some of them ruled in a great part of the Asian continent for over 450 years. Since then there have been over 20 ruling dynasties in Iran. The biggest events that shaped Iranian history have been the arrival of Islam to Iran 1400 years ago and the invasion by Mongols 800 years ago. Nevertheless, Iran never lost its strength and splendour. In 1979 the monarchy was abolished in Iran and since then the country's government has been an Islamic Republic whose affairs are run independently according to the people's vote.

Population

According to 1996 census Iran had a population of about 60 million with less than half under 14 years of age and more than 7 million aged 18-24 years. The rate of population growth has recently fallen to 1.47%. In the academic year 1995-96 Iran had 20 million school pupils in the primary and secondary sectors. As far as employment is concerned, 29% of the population are working in the agricultural sector, 25% in the industrial sector and 42% in the service sector. According to the 1994 census the literacy rate was 82.60% which means that 17.40% of Iranian people (age 6 and over) were still illiterate. 61% of the population are urban dwellers and the rest live in the rural areas.

More than 90% of Iranian people are Aryan of whom nearly 60% are Persian, 30% Azerian and 5% Kurdish. 4% of the Iranian people are of Arab origins. 98% of the people of Iran are Muslims and 91% of them are followers of the Shia sect. The other 2% consist of Zoroastrians, Christians, and Jews. The official and academic language

of Iran is Persian. The Azeri Turkish, Kurdish, Arabic and some other languages are also in use as regional languages. Iran's government is an Islamic Republic with a constitutional law that includes 175 clauses. According to the constitutional law, the highest ranking decision making position in the country is that of spiritual leader (an Ayatollah) who is elected by an Assembly of Experts. After the leader, an elected president is the country's highest ranking official. The president implements the constitution and chairs the executive body. There is also a parliament with 270 elected MP's including those representing religious minorities like Christians, Zoroastrians and Jews.

Economy

Iran has a growing market economy and efficient communication media and postal service but the telephone network is not yet fully extended to the rural areas. Iran produces various types of agricultural products like wheat, rice, potato, sugar beet, cotton, etc. Products such as dates, pistachio, fresh and dried fruits, caviar, flowers and medicinal plants are among the country's agricultural exports.

Thanks to its geographical location, Iran has rich mineral resources of copper, aluminium, lead, chromite etc. In recent years extensive efforts have been undertaken for the exploration and utilisation of mines facilitating the export of mineral products. Industrial products made in Iran include various types of vehicles, home appliances, petrochemical products, iron and steel, of which a large amount is exported. Iranian handicrafts, including rugs and carpets, tapestry, miniatures, ceramics and so on are produced for both domestic use and export. The main figure in Iran's exports is that of oil. Iran is an OPEC member. Iran's oil industry became independent in 1950. In recent years Iran has been exploring, extracting, refining and shipping its oil

independent of technological assistance by other countries. With natural gas resources of about 17 thousand billion cubic feet, Iran is one of the world's biggest gas-rich countries.

Educational System

Iran has achieved a common structure of education throughout the country. This requires five years of primary school, three years of guidance school, three years of high school, and one year of pre-university school. Throughout these twelve years efforts are being made to promote uniformity in all aspects:

Table 5.1 Stages of Education in Iran

Age	Stage	Class
6 - 10	Primary	I - V
11 - 13	Guidance school	VI - VIII
14 - 16	High school	VIX - VXI
17	Pre-university	VXII

Education is compulsory until class five and free at all stages including higher education.

Primary Education

Efforts are being made to achieve universalisation of education until the age of 10 (primary stage). The rapid increase in primary school enrolment became apparent in 1990 when the dangers of ignoring family planning became evident. Although the government is very serious in its efforts to achieve universal primary education, places at primary school are only gradually becoming available for all and there remain children living in remote and deprived areas where there are no primary schools. The government has recently taken steps to address the needs of these children by establishing small schools in which the holders of a high school diploma teach as their

compulsory military service. But by far the most difficult problem to solve relates to provision for economically disadvantaged children in rural areas. These children are needed to help their parents at home or on farms.

Guidance Schools

According to official statistics, 74.7% of primary leavers enrol into the guidance schools. Since universal primary education is a top priority, the expansion of guidance schools has not been able to keep up with demand. This level of education, therefore, suffers from a shortage of instructional spaces and skilled teachers. Thus, most of these schools are being used as double-shift schools.

High Schools

69.9% of guidance school leavers enrol in high schools. The most notable feature of this stage is that even after eleven or twelve years of schooling the vast majority of students do not acquire the competence to understand their cultural and socio-economic environment. The relationship between the high school curriculum and the job market is not as good as it should be. Jobs requiring high school education are not available at the same rate of high school graduation. The vocationalisation of the high school stage is therefore a major plank of the current educational policy in Iran's Second Development Plan (1994-99) (PBO, 1994) because of the shortage of middle skilled technicians in the country to fill the gap between high skilled and low skilled workforce. Not surprisingly, almost all leavers are interested in enrolling at university. On the other hand, there are not sufficient places available in universities to respond to the large numbers of applicants.

Higher Education

There are more than sixty national and private universities and seventy three other higher education institutions (UNESCO, 1992). All universities are under the Ministry of Culture and Higher Education (MCHE) while, since 1989, seventy two medical universities, have been under the Ministry of Health, Treatment and Medical Education (MHTME). As regards higher education, it is stated by national leaders that the quality and employability of university graduates is affected because arts and humanities are offered as linear programmes of study unrelated to real life, and science courses are designed essentially to explain concepts without supportive arrangements in the form of laboratory apparatus. Technical education also suffers from almost obsolescent machinery and equipment and lack of possibilities for research and training in respect of new technologies.

Distance Education in the New Education Policy

The emphasis of the new education policy on the national education system is on access, equity and impact. This policy was introduced in 1994 and redefines the role of education as a vehicle of human resource development in the country; to prepare the people to meet the challenges of the rest of this century. Among the various new approaches that have gained acceptance in recent years is the concept of distance education. This started out in the country in the form of correspondence courses in the 1970s but these were terminated in 1980. The new policy has begun to revive and build upon this system as a cost-effective way of meeting increasing demands for higher education.

The Development of Distance Education in Iran

Historical Perspective

Planning for modern development in Iran was begun in 1950 when the first Seven Years Development Plan of Iran (DPI) was produced. Special attention was not given to education in general or to higher education in particular in this plan, nor in the second one; a policy that was criticised by the compilers of the third DPI. In the third DPI (1964-68) attention was, to a certain extent, paid to educational affairs in which the provision of elementary education for 60% of the age group (6-10), increasing opportunities in secondary schools and improving the quality and quantity of higher education was proposed (Planning and Budget Organisation of Iran, (PBO) 1969, pp. B-H).

Fourth Development Plan

The higher education system in Iran has been faced with a variety of problems since the early sixties. Generally speaking, the most critical issues during this period have been the shortage of places at Iranian universities, the shortage of qualified academic staff at these institutions, the inadequacy of teacher training courses for under qualified or unqualified teachers, the insufficiency of material resources at the advanced institutions, and the ever-increasing pressure of student numbers.

During the Fourth Development Plan (1969-73), therefore, a faster development of education, improving quality at all levels, increasing the number of students, and the establishment of a more desirable balance between the educational system and needs for skilled manpower were projected (PBO, 1969:238). Clearly, the traditional higher education system was not able to address these demands effectively and a modest

expansion and development of the system was by no means a feasible solution to existing problem.

Under such circumstances, The Institution for Research and Planning in Science and Education entered the scene. In the late sixties, the experts of this institute carried out a comprehensive study to consider the feasibility of creating a distance education system in the hope of providing new services for under qualified and unqualified teachers and other government employees working in deprived or geographically isolated sectors. After two years, the various needs were identified, priorities were assessed and the material and human resources were considered. As planning proceeded it was decided to create a new correspondence faculty at Aburaihan Birooni University (ABU).

ABU Correspondence Faculty

As a result of these deliberations, the first Iranian Correspondence Faculty began its operation in 1971. The main goals of this new faculty were:

- Improving the qualification and efficiency of young staff who work in rural areas or remote urban areas.

- Providing higher education opportunities for people who were unable to further their studies at conventional universities (Prospectus of ABU , 1972).

Consideration of these goals shows that this new programme was fundamentally different from the conventional one. Some of the key differences include the:

- expansion of higher education opportunities to underprivileged people;

- encouragement of young people to work in rural areas and recognition of the obligation to provide good services to the people who live in remote areas;

- creation of possible opportunities for applying their new knowledge in real life.

Disciplines and Degrees

There were seven different fields of study at the Correspondence Faculty of ABU leading to the associate and bachelor degrees as indicated below:

1. Associate degree in management of Postal Services for post office staff.

2. Associate degree in management of Banking for bank staff.

3. Bachelor degree in Persian Language and Literature for rural high school teachers, and/or managers who had more than three years experience in these areas.

4. Bachelor degree in Elementary education for the same groups and rural schools supervisors.

5. Bachelor degree in Rural Economy and Co-operation for staff of rural co-operation companies, Ministry of Agriculture and Ministry of Economy.

6. Bachelor degree in a combination of Physics-Mathematics for those groups of teachers who taught basic sciences in the rural areas.

7. Bachelor degree in a combination of Chemistry-Natural sciences for the same groups.

This faculty was then divided into two: Faculty of Humanities and Social Sciences, and Faculty of Sciences. In 1976, the Regional Centres Unit was set up at the

headquarters of the university which was responsible for the establishment and administration of local centres throughout the country.

The applicants were required to be government employees and were to be allowed to choose only one field of study in one region. They were screened through the National Entrance Examination held once a year. Those who passed the examination were asked to provide sufficient evidence to show that the courses they intended to choose were relevant to their professional background, and for which there was a local demand.

Method of Teaching
The method of teaching was an amalgamation of correspondence and conventional methods with special emphasis on autonomy through the use of printed self-instructional texts. One of the most important characteristics of these materials was their clarity and simplicity to promote student learning. These were supplemented by some instructional media, weekend tutorial sessions which were arranged by the central organisation in the regional study centres and summer residential classes using the facilities of other institutions based in Tehran (the capital city) or various regions. The main part of the summer sessions was devoted to operational courses, laboratory activities and final examinations. Guidance and problem solving by correspondence and telephone were used occasionally.

Evaluation System
During the term, students received a monthly questionnaire for each course which was to be filled in and sent back to their tutors. These would then be returned to students with some directions and suggestions for their future studies after being considered and evaluated by tutors. The result of these evaluations made up 25% of their final mark for each course, while the other 75% was based on a final examination which

would be taken at the main campus or in the regional study centre. The conditions of higher education in the country at that time, the domination of traditional thought of the Iranian academic community and the lack of sufficient supplementary sources in terms of both media and related technology led the practitioners of the Correspondence Faculty to develop this model. Despite the prevalence of tradition, this was nevertheless an innovation in the country's higher education. Hence, there was some opposition in the form of the undervaluing of ABU degree quality. The satirical term of "the under the blanket degree" was prevalent and, unfortunately, still remains in use.

In 1980, the ABU's Correspondence Faculty terminated its operation. This was due to Iran's cultural revolution, as a result of which all universities and higher education institutions stopped their activities for a short period. Below is some statistical information documenting its size and operation in 1980.

Table 5.2 ABU Total Number of Students and Graduates

Total No. of students	5037		
No. of graduates	Associate degree	BA degree	BSc. degree
	1779	1305	818
No. of full-time staff	Academic		Supporting
	56		64
Source of Finance	National Budget		
Sum of annual budget in 1980	US $ 2142857		

Source: ABU annual report on Correspondence Faculty, 1980

Establishment of the Free University of Iran (FUI)

In the early seventies, the Institute for Research and Planning of Science and Education, which was partly impressed by the achievements of the Correspondence Faculty at ABU, and partly interested in innovatory educational schemes abroad, arranged some visits to Europe to draw up a report on the potential advantages of an

autonomous distance education institution. The results were satisfactory. In 1972, the overall planning strategy for the establishment of the Free University of Iran (FUI) was devised, and then preliminary planning, including preparations for the supply of study materials, necessary forecasts for the provision of specialist staff, together with the rectification of instructional shortages with the use of audio and visual technology, and development of necessary systems, all led to the admission of the first group of about 1,400 students in February 1977. The teacher training programme was given priority and designed in module form - a combination of physics-chemistry, physics-mathematics, and biology-geology. As a whole, 700 students entered these programmes at 14 local study centres. The same number of students entered the Public Health programme which was given the second priority.

The FUI had been designed to address the most critical needs, such as ever-increasing demand for higher education while holding the costs to society within acceptable bounds, the need to accommodate a demand for higher education no longer limited to specific socio-economic and age groupings, and the need to provide highly skilled manpower in areas critical to national integration and development.

Specifically, the stated objectives of this innovative university were:

- To help develop required manpower and specialised skills according to national priorities.

- To expand opportunities for Iranians to pursue higher education.

- To raise the quality of higher education in a variety of fields.

- To carry out research on educational techniques and methodology related specifically to the FUI teaching system (distance education).

- To provide continuing education for those seeking further education or retraining.

- To provide general education programmes designed to raise the overall level of public awareness (prospectus of FUI, 1977).

It was, therefore, the intention of the FUI to provide the vehicle whereby as many Iranians as possible might seek and acquire the further education they desired, irrespective of sex, age, creed, profession, social status, or place of residence and with minimal disruption of the daily activities and responsibilities attendant to the individuals' present role in society.

Instructional system of FUI

The instructional system of the university had evolved in direct response to its goals and objectives. Briefly stated, the FUI was a distance teaching, multimedia university, offering an integrated educational package which included specially designed text books and printed course materials, nationally broadcast radio and TV programmes, home experimental kits and audio-visual materials and equipment. These elements were specifically designed to supplement, complement and enhance the study programme of the students, both at home and at the study centres. The university contended that the multimedia approach could contribute considerably to a more meaningful educational experience and facilitate the learning process of students who must of necessity "learn at distance".

Decentralisation and the provision of higher education opportunities for the widely dispersed population of Iran required that the FUI course units be self-instructional, and that they provide a means of self evaluation. Since the programmes were developed in accordance with national manpower demands, the courses (where

possible) were inter-disciplinary (providing a broader range of individual skills) and were taught according to the principles of competency-based learning.

In addition to the above methods, the FUI employed a nation-wide network of regional administrative and local study centres which performed a variety of functions in relation to the needs of both students and the central administration. Such a network had been seen as an essential factor in the successful operation and development of the university. Two of a centre's most important functions were to maximise the availability of support systems (including tutorial and guidance services for the students individually) and to increase the actual contact and communication between the students and the university.

The Academic Programmes

One of the fundamental tasks undertaken in the early stages of the development of the FUI was academic programme planning: the design of that group of academic activities which would lead to the attainment of a specific academic degree within the framework of the objectives laid down by the university.

The academic programmes had been arrived at through co-ordination and in co-operation with those governmental planning bodies whose responsibility it was to determine the national requirements and priorities which reflected both the need for and response to the country's growth and progress. These requirements and priorities were further defined in the form of specific objectives which in turn formed the basis for the development of the actual courses. Each programme included research, operational and executive activities, each of which went through the following developmental phases:

- Needs assessment e.g. need for Maths and Science teachers at the secondary school level.

- Stabilising principles regarding the aims of the programme and thereby defining the required competencies.

- Identification of the aims and objectives of the programmes in order that priorities might be determined.

- Analysis of aims in order to obtain competencies regarding each aim and analysis of competencies in order to obtain specific objectives regarding each competency.

- Determination of instructional procedures and content required to achieve each objective (the documents of curriculum development of FUI, 1974).

Thus, for each unit instructional objectives, criteria for achieving the objectives, assessment modes, suggested concept/topic outlines for designing modules, the identification of designers' resource materials, trainee resource materials and learning stages had been determined. This process revealed five areas of primary importance and resulted in the development of degree programmes in Teacher Training, Health Sciences, Rural Development, Technicians' Training and a non-degree General Education Programme.

The Preparation of Course Material and the Integrated Media Package

Course materials were produced at the FUI's headquarters by a team of experts. This team included subject matter specialists, educational technologists, curriculum developers, media producer-directors, editorial assistants and graphic designers. The media package which would be used to take the university educational software to its

students consisted of texts and printed materials, TV Programmes, radio programmes, audio-visual and slide-tape programmes and experimental kits for the science, health and technical training programmes. The media mix was determined in such a way that the lion's share of material to be taught was carried via text. However, through the use of a systems approach and curriculum development techniques the FUI courses were designed as integrated multimedia packages in which every medium was expected to perform a specific but related task. Depending on the nature of the course, the media might be used with either a unique or a complementary function.

In particular, in relation to the needs of a university which was teaching at a distance and with limited human resources the multimedia approach was expected to perform several important functions:

- To provide a self-educational vehicle for those who were not officially enrolled in the university programmes;

- To reduce the sense of isolation and depersonalisation inherent in a distance teaching system;

- To provide motivation, pacing and a means of immediate visual demonstration for the students (the documents of curriculum development of FUI, 1974).

The broadcast media of FUI were produced in co-operation with the former National Iranian Radio Television's Educational Division. But all the other media production such as 16 mm films, video and audio cassettes, slide and photo series and slide tape programmes were the responsibility of the Broadcasting and Media Centre of the FUI (this centre was well equipped and unparalleled in the country at that time).

FUI radio and TV programmes would be broadcast via the former National Iranian

Radio and TV, during the early morning, evening, and late at night in regularly

allotted FUI time slots. Each programme would be broadcast at least twice. The

complete set of these programmes was also available for students to review at the

media library of each regional study centre.

Regional Study Centres

Regional study centres had a modular structure designed for flexibility and future

expansion. Each accommodated 100 students initially. This was where the real

interface between the students and the university occurred. All the carefully laid plans,

all the systems that had been developed and all of the materials that had been

produced would be put to the test by the students who came to these study centres.

The study centre would also provide them with the following facilities: a reference

and multimedia library (for film slide, and video programme viewing), health and

science laboratories, tutorial sessions, and an amphitheatre for seminars, presentations

and examinations. Centres were open until late in the evening, six days a week. Tutors

would provide tutorial and guidance sessions, monitor exams and assist with

laboratory experiments and clinical procedures. A librarian/technician trained by the

FUI was on duty at all times to assist the students in their use of the library and the

audio-visual materials.

Table 5.3 Statistical Details on FUI in 1980

Number of enrolled students	3181
Number of graduates	--
Number of full-time academic staff	426
Number of full-time supporting staff	758
Financial source	national budget
Sum of annual budget in 1980	$28,364,285

Annual report of FUI, 1980

172

Critiques of Early Distance Education in Iran: Evaluation and Concluding Comments

The activities of FUI and Correspondence faculty of ABU were not formally evaluated so, unfortunately, there is no systematically collated evidence to refer to at present. The following evaluative findings, however, are derived from some of the informants who were interviewed during the fieldwork for the present study and from insights gained from available planning documents, and the researcher's own experience.

Overall, it is argued that the activities of ABU correspondence faculty and FUI showed that the application of effective distance education methods can contribute much towards the development of an efficient system of higher education to satisfy the demand for skilled and trained manpower in Iran. It also showed that despite some opposition, distance education can provide quality education outside the conventional lecture room. The opponents of the ABU correspondence system and opponents of FUI criticised the fact that they had been used to bring education, through print, radio or TV to students who would rarely attend classes. They thus ignored the importance of the role of teachers and face-to-face tutorials. In contrast, the executive committee of both universities put forward the view that people can only learn and/or develop themselves. They cannot be developed by another. They oppose, in Freire's words, 'the banking concept of education' and also oppose the position that "learning is a valuable possession, held by the teacher or shut within the covers of a text book, that can be acquired provided the student listens or reads diligently and respectfully" (Dore, 1976, cited in Sewart et al., 1983:35). Instead, the supporters of distance education, stressed the importance of dialogue and self-learning. It is the human ability to act deliberately for a self-determined purpose, that leads to the expansion of one's own consciousness and the possibility to change ones' environment and society.

Criticism of the new system by the opposition, it is argued, was based upon lack of adequate knowledge about distance education and on contrary political or philosophical views concerning traditional education. Nevertheless distance education has been shown to have the following advantages for the country:

1. Both universities emphasised the rightful extension of educational opportunities and possibilities to remote and deprived areas.

2. Both insisted on applied aspects of instruction and knowledge although by different means. ABU trained state staff and in-service teachers only, based on a curriculum which was borrowed from conventional systems. FUI designed its own curriculum development by a consideration of needs, determination of priorities and job analysis. It can be said that ABU concentrated its efforts on existing employees whereas FUI focused on future employees.

3. Applied technology in the ABU was not as varied as in the FUI. However the use of complex technology such as computer terminals, TV programmes, audio-visual cassettes etc. by FUI required considerable expense, which caused an increase in the volume of investment and recurrent expenditure. It also led to a dependence by the FUI on the importation of technology and materials. Hence its critics, who opposed foreign influence, could see just reason for their attacks.

4. The ABU was faced with serious problems because of the shortage of qualified faculty members and the dramatic increase in the number of students. It also had considerable difficulty preparing distance learning materials and its supplementary equipment. The FUI on the other hand prepared efficient, high quality learning materials, using its qualified and well trained human resources and other experts such as instructional designers, educational technologists and editors, most of whom had

been educated or trained in England and America. The FUI also prepared high quality supplementary materials and established a confident repository for them for future use. They are still being used by other universities and the PNU today.

5. The ABU was basically a conventional university with a correspondence faculty inside it. Hence this faculty faced organisational and administrative problems. The integration of distance learning with conventional education showed that whereas distance learning should be treated as an innovation vis-à-vis the conventional system, in practice a strong tendency often develops for it to be assimilated into and absorbed by the latter. Bates (1990:11) points out that dual mode institutions which teach campus and offers courses at a distance 'have a harder struggle in providing courses due to a lower priority being given to distance teaching'. In contrast, the FUI, because of its relative independence and taking advantage of the occasion of increasing oil incomes in the years of 1975-78, started to develop its regional study centres and draw up ambitious plans. Because of the absence of an appropriate basis for technical and human mobilisation, along with the financial problems of the late 1970s, these could not be properly realised.

6. Despite all of these problems the early Iranian distance education institutions (ABU and FUI) introduced a cheaper and popular higher education system into the country that impacted on other countries in that area as well.

Eventually, the operation of both universities was suspended in 1980 by the Supreme Council of Cultural Revolution (SCCR) as part of the cultural revolution in Iran.

Cultural Revolution

The universities played a considerable role in the triumph of the Islamic revolution. Most of the revolutionary groups, including the clergy, had their bases at the

universities (the establishment of the Friday prayer in Tehran University is symbolic of those times). After the victory of the revolution there was serious competition and even battle among the various revolutionary groups to control the universities. The revolutionary government, therefore, put an end to this battle and suspended all the universities' activities for a while in order to revive advanced education in the country. At the same time, the Supreme Council of Cultural Revolution (SCCR) was established in 1980. SCCR started to adapt the structure of the existing universities and institutions, and to develop new curricula particularly in social and human sciences based on the cultural and social needs of the country and especially based on Islamic values. It assigned specific tasks to the planners of the High Council of Planning. Consultants, and other experts, were invited to participate in considering the written submissions. Academic staff of the state universities were appointed to consider, review, revise or replace old courses in various fields with new ones. Certain courses on religious studies, ideology and philosophy of Islam and other religions were included in all programmes as compulsory for all students.

As a result of these deliberations, some private higher education institutions which were already nationalised were merged with state universities and colleges. One of these new settings was Allameh Taba Tabaee University which was established by the integration of the FUI and ABU along with eight other higher education institutions.

A group of distance education practitioners including, the researcher, made an effort to prevent the Council from inserting distance education institutions into a conventional university setting but the council argued that the previous regime was trying to prevent students from being together in a campus because of their political force. The council viewed the government as a popular government, and the students

as the supporters, hence they did not wish to scatter them all over the country. At this stage it was argued that the country did not need a distance education system. Unfortunately a considerable number of the students of FUI and ABU could not finish their education because of their special circumstances of being bound up with the distance learning system. One of my informants explained this issue from the following revealing point of view:

> The decision was protested at by some experts indicating that this system [distance education] had no correspondence to conventional systems but I think the actual purpose of this policy was the destruction of this system (DBM - 3 - 95).

When I asked for more details the informant explained that:

> One of the important reasons for this policy was political. As you know most of the faculty members of FUI belonged to the left-wing political groups [Left was a label which was stuck on all political groups that follow Marxism, Communism and socialism without distinguishing any differences between them]. The reason was that this group had been banned by the Shah's regime from teaching and face-to-face communication with the students in conventional universities. Transferring them to FUI was a better solution to avoid their criticism in lecture rooms, manipulation of public opinion and decreasing their direct influence on students. It is my personal belief that a great number of such people had been employed at FUI. Islamic Republicans who came to power after revolution believed that left-wing groups were divergent from the Islamic revolution. The majority of these groups at FUI were opposed to the cultural revolution. The policy makers in the Supreme Council of the Cultural Revolution, therefore, found the termination of FUI's activities a good solution to the problem (DMB - 3 - 1995)

It can be said that such a policy brought about firstly, greater control of the government over the universities, and secondly, banishment of the anti-Islamic revolution groups or individuals from the university under the banner of 'reduction of overheads' after inserting many universities and higher education institutions into the existing universities or the establishing of a new university. However, the problem was not properly resolved. Great promises by the revolutionaries created great expectations among the people. The argument that talent and competence are today's

distinguishing factors replacing yesterday's family and ancestral standing, created an ever increasing demand for education at all levels and accelerated the race to enter university, as the attainment of decent jobs and changing of social positions were now dependent upon higher education. The ignoring of family planning, population growth and its distribution were other dimensions of new problems. Limited capacities in conventional universities to absorb the number of secondary school graduates and limited financial resources were other factors that led the SCCR to review its decision and rethink a proposal for the establishment of a new distance education university which had been submitted in 1985 by a group of experts.

The Establishment of Payame Noor University

Original Rationale

A rapid increase in the demand for higher education in Iran and very slow growth in the numbers of university places has become a major national problem. Today there are about 7,400 potential students per 100,000 population in the age group 18 - 24 in Iran, and some 1,700 students per 100,000 population. According to UNESCO's targets this should be at least 2,000 to 2,500 students

The number of participants in the National Entrance Examination (the main gate to higher education in the country which is held once a year) increased by about 216 percent between 1983 - 1988, whereas the number of students admitted shows a 173 percent increase over the same period. Table 5.4 shows the number of participants and admitted students from 1983 to 1988.

Table 5.4 Total Participants in Entrance Examination in Relation to Total Admissions at State Universities

Years	Total participants	Total admission	Admission percentage
1983	366,752	32,600	8.9
1984	351,263	35,858	10.2
1985	442,507	44,475	10
1986	586,086	61,816	10.5
1987	554,502	64,050	11.6
1988	604,528	65,120	10.8

source: MCHE, 1989

These admission percentages were still far from the growth rate of the demand. In other words, considering the potential numbers of students, there should have been an enormous increase in the number of places. Zohoor et al (1992:230) state that:

> Studies of findings of the previous National Entrance Examination justify the fact that about one third of these applicants are potentially capable of furthering their studies at tertiary level. Thus, there exists a demand for almost 300,000 vacancies at the post-secondary level. In contrast, the total available places including both state universities and non-profit institutions are approximately 200,000 which is clearly less than demanded.

Considering the potential numbers of students, there should have been at least a 50% increase in the admissions quota in order to absorb all of them. It is clear that an expansion in quantity was not to be achieved at the price of quality. The country was in need of a new approach.

Considering the rapid expansion of school systems, and the swift population growth, the current priorities for higher education are to maintain a quality delivery system, to provide adequate resources and to respond to the enormous increase in the demand for higher education by establishing new universities and academic staff in the years ahead. The achievement of these goals by traditional approaches will be very difficult.

Furthermore, existing universities and higher education institutions are generally located in areas where different kinds of potential students do not have access to them due to work and family responsibilities or geographical restrictions. Access to these universities is limited to those who are financially capable of meeting the high expenses of their education. However, despite their competency, people with job and family commitments, poor applicants, and residents of remote areas are often deprived of these educational opportunities. On the other hand, those who are capable financially and intellectually of pursuing their education in such areas, have to move to the large cities. The economic system and population texture of small cities, towns and rural areas are disturbed by the immigration of students to large cities. This is because during their study, they become adapted to living in these cities and experience shows that they have no desire to return to their home towns. The consequence of this immigration is that the large cities gradually become over populated with a skilled and specialised work force whereas other areas suffer from the lack of a skilled work force. Large cities are faced with numerous unemployed graduates while remote areas are starved of them.

Another national problem is that the natural resources of the country are situated in inaccessible and deprived regions with a bad climate. The authorities are obliged to cover high expenses in order to convince efficient and skilled experts to work in such sites for a short time. Despite the remarkable costs involved, these efforts have not brought about the expected results and effected rapid economic development, partly due to constant changes in personnel.

Finally, the country has to bear the burden of decreasing gross national production, to strive to control rapidly expanding inflation, to look for ways of finding new

accommodation, to overcome unavoidable social problems, and to deal with the development of sub-cultures within the urban cultures.

Renewed Interest in Distance Education

Iranian higher education policy makers have, therefore, concluded that distance education as an innovatory system, is potentially capable of covering remote regions particularly small towns and rural areas by means of modern technology, new educational media and practical instructional methods. Although this system cannot be a remedy for all problems, the potential for rapid expansion in the scale of operation and the potential cost effectiveness of distance education justified investment in the system. In this way a great number of applicants are seen to benefit from the opportunities offered, which it is now believed will form a basis for the social, cultural and economic development of the country. Under such circumstances, there is a genuine need to make use of distance education as a complementary alternative to the existing higher education system. However, it was not until the mid eighties that the potential of distance education and the part it was capable of playing in national development became thoroughly evident. Eventually, the idea of distance education appeared again in the Ministry of Culture and Higher Education (MCHE), and in 1987 Payame Noor University was born. PNU began its operation on a main campus in the north-east of Tehran, with its beautiful Iranian architecture, which lies on the attractive fringe of the Alborz mountains. Twenty eight local study centres have also been retained from previous distance education institutions.

Legal Status of PNU

The legal status of the university was provided in the 94th (18th November, 1986) and 97th (16th December, 1986) sessions of the SCCR. The fundamental law of PNU was

legalised by adopting some amendments to, and revising the 99th (22nd November, 1988) and 100th (29th November, 1988) joint sessions of Commissions one and two of the SCCR. Important articles of that law are as follows:

Article 1. In order to fulfil the distance education system, the central organisation of Payame Noor University is established in Tehran and its study centres are set up in different cities in the country.

Article 2. The university is a legal body of the Ministry of Culture and Higher Education and in view of administration and financial rules would be run in accordance with especial regulations which will be approved by the Board of Trustees.

Article 3. The main bodies of the university are as follows:
    a. Board of Trustees.
    b. Council of the University.
    c. Chancellor of the University.

Article 5. Duties and authorities of the board of trustees are as follows:
    a. Making the general policy of the university
    b. Approving the basic principles of development plan of the university and making decisions for the termination of the activities or abolition of disciplines or units of the university.
    c. Preparing the annual budget of the university and proposing it to the related bodies.
    d. Determining the amount of annual tuition and approving the financial, trading, administration, and employment regulations.
    e. Approving the organisation chart of the university.
    f. Approving financial activity statements and annual account balance of the university
    g. Approving the beneficial regulations attributable to products of the university including Payame Noor University Press, Broadcasting Centres, etc.
    h. Accepting or refusing of donations from private persons, bodies, or foundations in monetary and non-monetary forms.
    i. Approving the internal rules of the university.
    j. Assessing and evaluating the quality of education in the university.
    k. Putting forward the proposal of the dissolution of the university to the Supreme Council of Cultural Revolution (SCCR) for approval.

Article 6. The University Council is composed of the chancellor, vice-chancellors, deans of faculties, one representative of regional centres, two representatives of local study centres, and two representatives of faculty members. The duties and authorities of the Council are as follows:
    • Proposing the policies and the development plans of the university to the Board of Trustees.

- Proposing student admission capacity for each programme of study to the Board of Trustees for approval and
- Proposing all the cases that are relevant to the achievement of the objectives of the university to the Board of Trustees for approval.

It is worth mentioning that the Board of Trustees handed some of its authority such as approving the internal and instructional rules and regulations, over to the University Council to accelerate the activities of the university.

Article 7. The Chancellor of the university is the representative of PNU for external interactions with other national and/or international organisations, associations, and societies. He/she is also responsible for all the administrative affairs.

Article 12. The Islamic Republic of Iran Broadcasting (IRIB) will assign some of the radio and television broadcasting times to the university teaching programmes.
Note: The broadcasting expenses have to be met by the IRIB and the production expenses have to be covered by PNU

Article 14. The university will award Associate and Bachelor Degrees.
Note: The university graduates may participate in the entrance examinations of the conventional universities and if accepted, they can continue their education towards higher degrees (Constitution of PNU, 1986 and 1988).

Aims and Objectives of PNU

The objectives of the university are as follows:

- Promoting cultural and scientific qualification in the society.

- Offering a chance to people who live in remote areas and continuing their studies.

- Creating opportunity for people with family and work commitments who are notable to continue their studies at conventional universities.

- Providing instruction to applicants to acquire technical, vocational, professional, and educational qualifications.

- Using all possible facilities for the development of higher education in the country.

- Presenting degree-level courses to teachers and as a result, solving the problem of shortages of qualified teachers in schools.

- Arranging short and long term updating courses and public training to keep people informed of the latest technical and scientific achievements.

- Accelerating economic and social developments by means of cultural promotion (UNESCO 1992 and PNU's Prospectus, 1995).

Organisational Structure of PNU

At the initial stage of the operation of the university, there was no clear organisational structure. Therefore, the design of the organisation of PNU needed to be deliberately considered. The unique feature of the university as the only distance education institution in the country, called for a background study of the system, data collection, identification of demands, and organisational needs followed by the implementation of a tentative organisational structure. This was carried out by the Organisation Committee comprising the organisational experts and counsellors of PNU. The committee arranged numerous meetings with the administrators and authorities of the university and its regional centres. At the same time, a comparative study was made between the organisational structure of conventional and distance education systems. The result of these activities was the design of the Master Organisational Chart, and the Book of Organisational Positions for PNU, which were submitted to the Organisation of Administrative Affairs and Employment (OAAE) for final approval. OAAE, in turn, made the necessary adjustments and adaptations so that everything would fit and conform to the national regulations, and organisation standards for public institutions. This process took OAAE the best part of a year during which the Organisation Committee of PNU was regularly invited by OAAE to elaborate the problematic areas or to justify the various issues.

Finally, the master organisation chart and the detailed organisational bodies of PNU were approved by OAAE in 1992, and were officially reported to the university for implementation. This led to PNU's workings based on a tentative organisational chart created by its initial managers, for some five years. This period of time was sufficient to gain valuable experience about the organisational demands on the university and to use the experience obtained in discussing with OAAE experts to justify the unique nature of the university and its fundamental differences with conventional universities. Now PNU as a state university operates under the MCHE and, as already mentioned, has three main bodies at the policy making level: the Board of Trustees, the Council of the University, and the Chancellor of the University. The Minister of Culture and Higher Education is the president of the Board of Trustees. The Chancellor who is also a member of the Board of Trustees, is nominated by the Minister of Culture and Higher Education, approved by the Supreme Council of Cultural Revolution, and appointed by the aforementioned minister. The Chancellor has four vice-chancellors namely for Academic Affairs, Administration and Financial Affairs, Student Affairs and Research. Appendix 4 shows the organisational chart of the university.

A Comparison of the Organisational Structure of PNU with Conventional Universities in Iran

The organisation of PNU is unique in Iran's higher education system. This is explained by its exclusive role in distance education. There are in fact four organisational bodies at PNU which are entirely different from conventional ones.

1. The section for compiling and preparing of study materials in the Academic Vice-chancellor's Office.

2. The educational media centre and test bank department in the Academic vice-chancellor's office.

185

3. The existence of regional and local centres in the organisational body of the PNU each of which replicates the headquarters on a small scale. These regional organisations in effect guide, lead and control the local study centres which are under them. The local study centres are in charge of administrative, educational, research, cultural, developmental, and financial affairs.

4. The Technical Management and Development Plans Office, in the Headquarters which is responsible for planning, leading and controlling the construction activities at both the main campus and the regional and local study centres.

These units along with other organisational parts of PNU are peculiar to distance education. In contrast, conventional universities warrant a different organisational structure owing to the face-to-face components of teaching. Inevitably though there are some similarities in the management of both systems with those relatively similar duties pertaining to both types of organisation. Table 5.5 shows the similarities and differences between PNU and conventional universities in terms of organisational structure.

Table 5.5 The Comparison of PNU and Conventional Universities Organisational Structure

	The general organisational structure of Iranian universities	PNU	conventional Univ.
1	Office of chancellor, Vice-chancellor, planning curriculum, development, research, international co-operation, administrative and financial affairs, faculties*, computer services**, sports	+	+
2	Regional and local study centres, educational media centre, bureau of text production, study materials distribution, publishing house central, regional and local libraries, assessment and student affairs, regional and local centres development planning	+	−
3	Management of student services, students welfare (accommodation, self-service etc.) broad administrative, financial and educational organisations within the faculties	−	+

* Regardless of the term 'faculty' which is used in both systems, there is a significant difference in terms of activities and duties. Faculties at PNU are responsible for the development of the learning materials, planning and producing educational resources, as well as monitoring the quality of education, central supervised examinations, and establishing co-ordination among the departments in the main campus and departments of the regional and local centres. However, faculties at conventional universities play almost the same roles as the regional centres of PNU do.
** Computer services are exclusively provided for data collection and students records at conventional universities. In contrast, at PNU as well as those services, the computer network plays the role of data

base and/or bank. That is, to say existing the computer network is an efficient component of the educational system (Askarian and Yazdanifard, 1995).

As well as these differences, PNU has its own definition for some academic and non-academic positions. For example, the term of 'academic staff' which is used in both the conventional and distance education system, carries considerable differences in the nature of its activities and duties at PNU. Academic staff at PNU are responsible for the development of self-study texts, occasional tutorial sessions, face-to-face weekend classes, and collaboration with study centres rather than solely teaching in lecture rooms or joining a research team. Academic staff at the study centres of PNU play almost the same role as those in conventional universities.

The approved ratio of academic staff to students at PNU is 1/38 (one academic for every 38 students) which is much greater than that of 1/15 in conventional universities. But at present this ratio is 1/134 (Bureau of Budget and Organisation of PNU, 1995) which means that the university suffers from a shortage of full-time academic staff and tries to compensate by using traditional university academics as part timers and contract staff. The ratio of students to supportive staff is also greater than is found at conventional universities. This is determined by the size and type of study centre. Table 5.6 shows this classification.

Table 5.6 Classification of Study Centres in Terms of the Number of Students and Staff

Type of centre	No. of students	No. of supportive staff
A	up to 750	52
B	751-1250	64
C	1251-1750	74
D	1751-2250	82
E	over 2250	88-100

Recruitment and Training of Academic and Supportive Staff

Both academic and supportive staff are recruited in line with national regulations for staff. The process of recruitment of academic staff is more involved than is the case for supportive staff. First of all, each applicant must fill out the university's application form and send it to the university along with her/his curriculum vitae then they are invited for an interview by the appropriate department. The selected people are introduced to the recruitment committee of MCHE. This committee makes the final decision and informs the result to the university. Because of the shortage of qualified applicants there is serious competition among the universities for recruitment. MCHE, therefore, allocates a share for each university annually. This differs slightly for PNU, because the group tutorials and face-to-face classes are held at weekends and national holidays. The academic staff of conventional universities which are situated in each region are, therefore, able to co-operate with the local centres.

Since most new academic staff are not familiar with distance education each department arranges one or two induction sessions for them before they start their work. They also arrange some occasional seminars for academic staff in each programme for exchanging personal experience and solving the more common and acknowledged problems.

One example is the monthly session under the name of 'being familiar with distance education' for all staff in headquarters.

Regional and Local Study Centres

The organisational structure of PNU as shown in appendix 4 is a pyramid form so that the chancellor is at the top after the Board of Trustees and four vice-chancellors'

offices operate under the chancellor's office. The domain of the vice-chancellors expands with regard to the development of the university's regional and local centres. Furthermore, the regional and local centres operate on the basis of the predetermined policies of headquarters with minor variation. The present duties of regional centres are planned to be codified. The interaction of these centres with the headquarters is also centralised. That is to say the centres mainly operate in accordance with the rules of the headquarters.

The Process of the Establishment of Study Centres

Thanks to the nature of the distance education system, its relative independence in Iran and the fact that this system is basically student-centred, it can cover a large population of students over a large geographical area. There is a relation between the dispersion of cities and the number of study centres.

> Study centres of PNU are mainly set up in line with the formation of the Board of Founders in the target cities. The Board of Founders consists of the authorities of a city including the Governor, Mayor, General Director of education along with the trustees and well-known persons of the city (MHH 11-95).

The university provides a list of initial needs for founding these centres. The list includes ensuring an appropriate building or ensuring the necessary resources for making a building according to the standards of the university, ensuring expenditure for three years, providing necessary equipment such as personal computers and printers, copy machines, office furniture, laboratory facilities if necessary and so on. Introducing at least two academics to take the responsibilities for the instructional programmes is one of the important preconditions of this stage.

> The Board of Founders undertakes to meet these initial needs and report to the university's headquarters. This is the contribution of the people to the development of PNU throughout the country. This being done the university gains the approval of the Council for Development of Universities and Higher Education Institutions to establish certain study centres. The Board of Founders usually remains active for a couple of years or more, and their activities may

give a positive or negative impact Yet, it may be necessary for a study centre to keep in touch with the Board of Founders for a long time (MHP-10-95).

The regional and local study centres are administered by principals appointed by the Chancellor of the university.

PNU started its operation with 28 study centres which remained from the two previous distance education institutions. It now has some 120 regional and local study centres which indicates a dramatic increase in a very short time. Table 5.7 presents the development of PNU's study centres.

Table 5.7 Development of Local Study Centres at PNU

Years	1988	1989	1990	1991	1992	1993	1994	1995
No. of centres	28	30	43	62	73	89	118	120

As the number of the centres increases so their administration, control and co-ordination become more complex. Originally there was no special unit to act as a controlling agent at headquarters. Numerous problems were therefore created as a result of rapid development and the disparity among centres. Askarian and Yazdanifard (1995:85) two of PNU's practitioners have some recommendations to solve this problem:

The principle of division of labour, classification of duties and the principle of organising dictate the following items for the achievement of the objectives of the system:
1. On the basis of specific factors, the centres must be classified within the regions.
2. The description of duties of the centres and regions must be specified in order to avoid interference and extra activities and to save the time and to use the financial resources properly.
3. There must be clear procedure for the interactions among the regional and local centres and the staff managers.
4. *Appropriate and balanced authorities and responsibilities* are required to be entrusted to the centres.

These recommendations by two practitioners of PNU served as an acceptable solution to the problem. That is to say the issues of the continuous supervision and control throughout the headquarters resulted in the division and classification of the local centres and the creation of the regional centres as a middle level management to be in charge of the supervision and co-ordination of administrative affairs. On such a basis, two or more neighbouring provinces (there are twenty five provinces in Iran) were classified as a region while considering their geographical location, the number of centres and the distance between them, the number of students and the revision of the previous programmes of the study. Reconsideration of the previous distance teaching institutions in the country revealed that the regional centres should operate as a bridge or mediator between headquarters and local centres. Accordingly the regional centres were given the role of co-ordinators, guides and advisors. It was, therefore, argued that middle level management at the regional centres would deal with most administrative problems of the centres that call for immediate decision making thereby maintaining a balance and co-ordination and reducing the direct interaction between the centres and headquarters. Table 5.8 presents the regional centres, their geographical coverage and student population in 1995.

Table 5.8 Classification of the Centres in Geographical Regions

Regions	No. of provinces	No. of Study Centres	Students* population	Percent
1	3	13	10125	9.40
2	2	13	11741	10.91
3	2	11	17145	15.93
4	4	17	9372	8.71
5	3	12	9229	8.57
6	3	10	6740	6.26
7	3	14	9800	9.12
8	1	11	11921	11.09
9	2	12	13826	12.85
10	2	7	7708	7.16
Total	25	120	107607	100

* excluding non-degree and international students.

The Duties of Regional Centres

Since the regional centres as new organisational bodies were not predicted in the master organisational chart of PNU, clarification of duties and the range of activities of regional centres became necessary. Hence, the duties of the heads of regional centres were clearly defined. These centres have been allowed to set forth their main issues and address urgent problems at middle level management. The implementation of this policy reduced the administrative challenges of the headquarters and provides an opportunity for them to spend more time on fundamental issues. The duties of regional centres are now as follows:

- to supervise the implementation of educational, administrative and financial policy of headquarters in local centres;

- to hold regional meetings to set forth proposals in the relevant committee in order to resolve educational, administrative and financial problems which are solvable at region or local level.;

- to evaluate the quality of booklets, instructional guides and texts submitted by tutors, on specialist committees and dispatching the selected works to the related faculties at the headquarters for reconsideration and approval;

- to study and advise the sabbatical leave and scholarships awarded to the academics of the local centres, and to submit the measures taken to the office of vice-chancellor, research;

- to recruit the academic staff for local centres according to the current rules of the university;

- to encourage the academics and students to research and co-operate with the office of the vice-chancellor of research;

- to distribute the study materials, instructional media and laboratory equipment or materials which have been dispatched from the headquarters; and finally

- to control any construction and works, development and maintenance of the buildings of the study centres with co-ordination of the headquarters (Approved by the Board of Trustees, 1992).

The Duties of Local Centres

- to implement the university's plans concerning educational, administrative and financial concerns at the centres;

- to encourage the academics, students and local scholars to research in relevant areas and local problems;

- to execute the general rules and regulations as well as the approved educational regulations under the supervision of the chancellor and vice-chancellors of the university;

- to establish co-ordination between educational and non-educational programmes;

- to organise the council of the centre in order to deal with the educational, research, student, administration and finance, and development problems at the centres;

- to have continuous collaboration with the regional centres and to participate in the meetings held at the council of the region;

- to organise the student services such as registration, tutorial sessions, and face-to-face classes, to administer the mid-term and final supervised examinations and to keep records of the students; and

- to consider the admission capacity of centres with the co-operation of the regional centres (Approved by the Board of Trustees, 1992).

These changes in the organisational structure of the university show the tendency of the headquarters at PNU to promote the decentralisation of its largely centralised organisation. Yet, the domains of the Vice-chancellor's offices are also expanding with respect to the development of the regional and local centres. In terms of job description the present organisational features of PNU are mainly centralised at the headquarters. The duties of regional and local centres indicate that they have still to function on the basis of the predetermined policies and regulations of the headquarters except in minor cases. There is little place for their own creativity and personal initiatives. Recently some steps have been taken to establish some study centres in neighbouring countries. The study centre of PNU in the United Arab Emirates, for example, is now at work and the study centres of Afghanistan and Republic of Azerbaijan will start their operations very soon.

The Instructional System of PNU

Distance education differs from other modes in terms of the methods it employs for mass education. In conventional systems it is the teacher who forms the learning behaviour of the students through the regular attendance in classroom, and following the face-to-face teaching-learning methods. In contrast, the learning behaviour of students, in distance education, depends largely upon the administrative methods of the organisation, quality of study materials and tutors and course writers. The replacement of teacher with the self-study materials represents the significance of such materials. Therefore, the university is in charge of planning, supporting and provision of instructional services for students who are themselves responsible for their learning at distance.

The language of study at PNU is Persian. English language is also used as a second language. The major component of instruction is printed materials representing more than 90% of the instructional package. Personal and group tutorial sessions, weekend face-to-face classes, television programmes for only some science courses, audio and video cassettes, laboratories and experimental kits for some science programmes are also available. Each of these components is discussed below.

Printed Study Materials

Printed study materials are divided into three types: self-instruction text, reference books and study guides. Reference books are usually recommended by tutors as a supplementary source and are available in book shops. Study guides are compiled by the PNU's experts for each programme of study.

Printed self-instruction texts are the major instruction component and the most suitable core around which other media is designed at PNU. These materials are required to be developed according to the national curriculum for every discipline and national syllabuses for every course of higher education. As a result, part of the task of designing a given course has already been done. One of the informants of this study argues that:

> The advantage of the existence of national standardised syllabuses for PNU is that the course production bureau benefits from the whole national potential of academic staff in terms of optimisation of the process of course development (MHB-6-95)

However, the background of these academics and their conservative tendency towards traditional pedagogy can affect the quality of their writings and co-operation with the university. For this reason, PNU usually arranges some orientation meetings for them and has published a special guide book entitled 'How to Write Self-study Texts'.

> The policy of the university is to convince the course writers from conventional universities that their familiarity with the art of writing self-study texts will have

a positive impact on their approach to teaching at their own universities, and will eventually promote the quality of the educational system of the university in general. (MHB-6-95).

Although the development of course materials has a short history, there is an increasing tendency among the professors of conventional universities to co-operate with the PNU's course development teams. PNU tries to use their full potential, particularly their highly qualified professors for writing, editing and evaluating its self-study texts. A few years ago they used to spend all their time only at conventional universities. This can be viewed as a major contribution of the PNU to the Iranian academic and higher education community. The publishing of hundreds of books and articles would never have been possible if PNU had not existed. PNU has raised the rate of payment for writing or editing to a high level because this type of investment is vital for the development of quality texts. This is another contribution of PNU to the academic community.

Development of Self-study Materials

Self-study materials are developed by course teams of various departments and delivered to the bureau preparing and compiling study materials. The first draft of course is prepared by one or more well known specialist(s) in the related field. This draft is assessed by the university. If it is acceptable the writer(s) will be invited to join the pertinent course team which includes an educational technologist, editor, illustrator, designer of laboratory activities and if it is necessary, a television director and producer. The educational technologist co-operates closely with the course writer(s) in clarifying the objectives, methods of delivery for independent study, and choosing the appropriate audio-visual aids. The illustrator, in turn, furnishes the text with drawings, graphical designs and pictorial representations intended for

elucidation. The joint action of the director and producer of radio and television

programmes the course writer(s) and the educational technologist result in the

production of audio tapes, video tapes, slides and film strips. The editor considers the

clarity, choice of words and pictures, and writing style of the text according to the

university's standards of self-study materials. Finally, the role of the laboratory

designer is to devise the activities that are to be done in the laboratory. Then, the final

draft is typed by computer services and delivered to the printing and publishing centre

of the university. Figure 5.1 presents the process of the course production.

Figure 5.1 The Process of Course Production at PNU
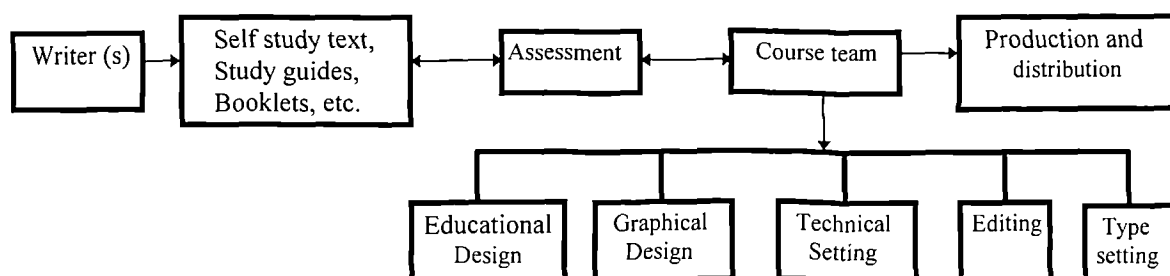
Over the eight years from 1987 to 1995 about 850 books were generated, a total of

more than three million copies (Printing and Publishing Centre (PPC), 1995)

published by the publishing house of the PNU.

Individual and Group Tutorial Sessions

Regional and local study centres of PNU are usually open six days a week except

Saturdays (the national weekend in Iran is Thursday and Friday). The academic staff

at study centres are encouraged to devote more time to individual or group tutorial

sessions. The students can come to them for solving their problems and for

appropriate counselling individually or in groups. These face-to-face contacts of tutors

and students provide a special opportunity for students to ask tutors to explain

difficult points and to answer their questions as well as providing social interaction and developing mutual friendly relationships which are crucial for isolated students. The young and unemployed students are the major users of these services. The students also have the option to contact the tutors by telephone and/or letters in order to further enhance their comprehension of the study materials.

Face to-face Residential Classes

Another mode of learning of great significance for PNU is weekend or public holiday face-to-face residential classes. These classes are arranged to compensate for the limitations of study materials and create social interaction opportunities between students and staff, and the students themselves. At these face-to-face group sessions students can raise questions regarding the materials, or discuss their points of view about the course with their tutors or each other. Alternatively, the tutors themselves may choose to initiate discussion on a topic from the course material for enrichment purposes. There is the flexibility to arrange additional session(s) for those students who need it. There is generally a relation between the course weight, difficulty and whether the course has TV programming or not, and the numbers of class meetings in an 18 week semester. Two class meetings are normally arranged for each credit unit of general and basic courses. Up to four class meetings are organised for every credit unit of specialised courses (see table 5.9) but these are not a fixed rule.

The courses that turn out to be difficult in nature such as mathematics and physics etc. may have more classes. It is usually in the first semester of offering the course that it becomes clear whether such a measure should be taken or not.

Table 5.9 Face-to-face Residential Classes in Each Semester

Type of course	course weight (units)	Group Tutorials Hours per semester	Group Tutorials Hours per semester	Personal Tutorials Hours per semester	Personal Tutorials Hours per semester
		With TV programmes	Without TV programmes	With TV programmes	Without TV programmes
General & Education (teacher Training)	1	1	2	0	3
	2	2	4	0	6
	3	3	6	0	9
Basic	2	2	4	4	8
	3	3	6	6	12
	4	4	8	8	16
Specialised I	2	2	6	6	6
	3	3	9	9	9
	4	4	12	12	12
Specialised II	2	2	8	8	8
	3	3	12	12	12
	4	4	16	16	16

Source: Zohoor et al., 1991

A valuable common practice in the university is to assign the authors of the text books to participate in the class meetings at a study centre at least for one semester. The course writers, in this way, find an exceptional opportunity to recognise the defects in their arguments, the appropriateness or the level of difficulty of the text, its mistakes and gaps. The students, in turn, let the course writers know whether their books gave all relevant information and expected facts in a comprehensible way and provide actual teaching by sufficient explanations, exemplification and repetitions or otherwise.

Personal observation of the courses as well as comments and criticism from the students and tutors of the study centres gradually forms a foundation for the revision of these courses before being reprinted and offered in the subsequent semesters.

The members of academic staff at regional and local centres are by no means sufficient for running tutorials (there are one or two academic staff for each discipline in each centre and the target is four per discipline). Each centre is responsible for

recruiting the academics of conventional universities which are located in the region as part time or contract academics. This can be more convenient for them because the group tutorials are held at weekends and national holidays when they are free of obligation to their own universities. Both regional and local centres are relatively successful in providing the necessary academics for running the group and individual tutorials. There were no reports or evidence as regard to the lack of co-operation between study centres and other local higher education institutions. The management of these tutorials is thoroughly decentralised even within the local centres (SAM-4-95). Thus, the planning, organising, leading and controlling of all the activities related to tutorials is the responsibility of the centres.

Television Programmes

Television programmes are used as another component of instruction. These programmes help to make the education more stimulating and help the students to understand the subjects in a more practical way. The programmes are produced only for a few science courses that require either observation or elaboration of practical activities. The Educational Media Centre (EMC) which works under the office of Vice-chancellor for Academic Affairs is in charge of producing of these programmes. According to PNU's foundation rules as approved by SCCR (article 12) these programmes must be produced in co-operation with Islamic Republic of Iran Broadcasting (IRIB) and PNU. IRIB is then committed to produce and broadcast the educational programmes of PNU during the academic year. The production expenses have to be covered by PNU and the broadcasting expenses should be met by IRIB. The High Council of Co-ordination and Planning was set up to co-ordinate these activities. It consists of the Chancellor, Vice-chancellor of academic affairs, General

Director of EMC from PNU and the Educational Programmes Manager of IRIB. This council is mainly concerned with the production aspects and timing of the programmes. The experts and educational producers of IRIB are generally familiar with distance education and some of them had been involved in producing the educational programmes of the FUI. The programmes are produced with the assistance of the academic staff of PNU and are broadcast in the early afternoon (from 3.30 to 5 p.m.) and late at night (from 11.30 to 12.30). Most of the students have TV sets, but they may be at work in the early afternoon and unable to watch the programmes or too tired to watch television late at night. Apart from the problem of the time of broadcasting, the technical quality of produced programmes was not satisfactory to the university.

> Although eminent academics of PNU and conventional universities presented these programmes the technical quality of the programmes seemed to be not as good as their contents. Moreover, there appeared to be no direct relation between broadcasts and the progress of the students doing that part of the course (MKH-8-95).

This means that, the programmes were not broadcast with respect to the progress and pace of students. In other words they were occasionally broadcast later than the university's semester time table. On the other hand, PNU was not able to resolve the problem because they had a low degree of executive discretion in the process of production and broadcasting. Despite this, IRIB recently has insisted on making sure all expenses, including the production and broadcasting cost, are fully met by PNU. This has increased the cost of production to such an extent that PNU has decided to terminate its co-operation with IRIB (MKH-8-95). The produced programmes are now available on video cassettes at study centres for students. The whole range of

programmes which are produced and broadcast in the academic year of 1994-95 are listed in table 5.10.

Table 5.10 Educational TV Programmes Produced and Broadcast

Name of the programme	No. of the programme	time (minutes)	total time (hours)
Basics of Math.	12	30	6
Mathematics I	12	30	6
Mathematics II	12	30	6
Algebra I	16	30	8
General chemistry I	14	30	7
General chemistry II	8	30	4
Analytical chemistry	12	30	6
Physics I	8	30	4
Chemistry-physics	16	30	8
Statistical methods	7	30	3.5
Basics of computer	17	30	8.5
Total	**134**	**30**	**67**

In 1995 a plan was put underway at PNU to establish its own educational television network. In this respect the authorities of MCHE and PNU have signed a protocol costing US $ 50 million with Russian authorities for the establishment of this network and use of their satellite facilities to broadcast PNU's programmes to the whole country as well as some neighbouring countries to be implemented within the next five years. 45% of the required capital is to be granted by the Islamic Development Bank following negotiations held in 1995 (Ettelaat, No. 314, 17th August, 1995).

Audio-visual Cassettes

After terminating the agreement between PNU and IRIB, audio-visual cassettes became a most important component of PNU's instructional method. At present, EMC is producing audio and video programmes for some courses with its modest facilities to compensate of these shortages. The EMC has twelve staff: producer-director, graphic designer, animators, cameramen, calligrapher, photographers, and electronic technicians. Steps are being taken to set up four studios: two video studios, one audio and one dubbing studio at the main campus. This centre has produced several

programmes on Geology, Geography and Biology. It also dubbed several scientific

video programmes which have been produced in other countries into Persian. The

centre also reproduced the audio and visual programmes which have remained from

FUI. Students can either buy or borrow these cassettes for a limited time or can use

them in the media centre of study centres. A typical media centre at each regional or

local centre has a TV room with capacity for 20 people to watch a programme

together; an audio-visual lab with five separate TV booths and two separate audio

booths; a command room which is used as an archive as well and in which control

panels are installed. There are also ten video recorders in the room which is linked to

all the classrooms. It is, therefore, possible to play ten different tapes simultaneously

for ten classrooms. The fourth room belongs to the technical staff who are in charge of

the maintenance and repair of the equipment. The tapes are also duplicated in this

room. Setting up of these media centres started in early 1994, and is continuing until

all study centres have one. Five of these media centres are active now and the others

are under way (Alimohammadi and Hemmat, 1995).

Laboratories and Experimental Kits

14 regional and local study centres are offering four programmes of study in applied

physics, biology, chemistry and geology, and one local study centre offers an

environmental health programme. Each of these centres has the related laboratory

facilities for basic courses. Laboratories are open at weekends and on national

holidays and operate according to a predetermined time table which has already

invited students. The main laboratory activities for students takes place in summer

sessions. Some more specialised laboratory-based courses used to be done at

conventional universities or other research institutions during weekends, public and

school holidays or at other times when their laboratories were not in use. Conventional universities are committed to assist the study centres and PNU has to pay all the expenses of such activities to these universities. In practice, however, it is difficult to arrange laboratory activities at the right time and place. There is, therefore, some irregularity in offering laboratory-based courses. These can be postponed until having access to better equipped laboratories in the region. However, the students must complete the required laboratory-based courses for graduation.

The home experimental kits which were designed to provide the equipment and materials for some simple experiments required for a course, can be borrowed for a limited time and students have to pay for consumed materials or damaged equipment. Careful consideration was taken of the students' environment and limited access to certain chemical materials, a strong emphasis being placed on the complete and self-contained nature of the kits' design and assembly.

Programmes of Study

At present there are six types of programmes which are presented in the fields of: Science and Technology including applied physics, biology, chemistry, computer engineering (software), environmental health, geology, and mathematics; Business and Management including accountancy, business administration, public administration, and statistics; Social Sciences including education, English language, geography, Islamic theology, Persian literature and language, physical education, psychology, and sociology. These six programmes are as explained below.

1. Formal Degree Programmes

These programmes are offered to those who pass the National Entrance Examination held annually by the National Educational Assessment Organisation (NEAO). The

period of study for these students is seven to twenty semesters depending upon their progress and pace of study. Each academic year in Iran includes two semesters (Autumn and Spring) with a total of eighteen weeks (sixteen to seventeen teaching weeks and one or two examination week(s). A credit system is used based on one credit for every eighteen hours of teaching and examinations per semester. This system actually, is used for all other types of programmes. A total of 130-36 credit units are required for a Bachelors Degree. The degree is equal to those awarded by conventional universities. If the graduates are in employment they are assigned a new job in their original place of work to suit both their newly acquired speciality and the needs of the unit. Unemployed students will find a suitable job according to their new academic qualifications. A considerable number of these kind of graduates become secondary school teachers. When they are assigned a new job, they will be treated and paid as equal to conventional university graduates.

2. Associate Degree Programme

This programme is offered at associate degree level and only in environmental health. A total of 65 to 70 credit units are required for this degree. The target students of this programme are in-service adults and secondary school graduates who are working for local environmental health service organisations. The admission is granted to those who pass the National Entrance Examination.

3. Equivalent Degree Programmes

These programmes were initiated in 1992 to launch special degree programmes exclusively for employees of public and private sectors on the basis of their demands at each region. The applicants are required to be secondary school diploma holders and sit for a specific entrance examination held by the university with the co-operation

of NEAO nation-wide. The applicants must also submit a formal recommendation from their employers.

Although the course syllabuses are the same as those for formal degree programmes, the awarded degree is recognised as the equivalent of formal degree only by the sector in which they work as full or part timer employees. The purpose of these programmes is to develop the participants' skills and knowledge, and as a result their professional positions. Currently, there are 62 regional and local centres that offer these programmes. The enrolment rate for these programmes should not exceed one third of that of formal degrees.

4. General Degree Programmes

These programmes were first launched in early 1993 in four fields of study including mathematics, biology, Persian literature and language and education at Bachelors Degree level. The programmes are the most flexible ever offered by a university in Iran. Applicants are required to be secondary school graduates with an acceptable grade point average (GPA) in their written examination which is specified by PNU annually. In 1995 it was 13 (65%) out of twenty in mathematics, 14 (70%) in natural sciences and 15 (75%) in other subjects. One important change in admission policy is that applicants no longer need to attend the national entrance examinations. This policy of admission as now employed at PNU is the first in the history of Iranian higher education. The admitted students will study conditionally for one semester. If they succeed in the final examination of the first semester they will be able to continue their studies, otherwise they will be withdrawn.

The study centres despatch the relevant study materials to the students who must study independently and are entirely responsible for their studies. Unlike the formal

programmes, group tutorials and face-to-face- weekend classes are not included in these programmes but they can borrow audio and video cassettes from the study centres. They will be charged if they wish to attend such classes. Every student can choose five to twenty credit units in each semester at the end of which a supervised examination is arranged. They should, in fact, join their peers in the other programmes for the same examinations. The minimum passing score is 10 (50%). However, the average of all scores at each semester should not be less than 12 (60%). The maximum period of completion of this programme is 10 years. These students have to pay for services which they receive

5. International Degree Programmes in Persian Language and Literature

This programme is designed for international students as well as Iranian people who are residing abroad. The program is presented by the faculty of Persian Language and Literature for External Students (PLLES). The faculty initiated its activities in 1990. Persian language and literature is offered at four degree levels including Associate of Arts (A.A), Bachelors of Arts (B.A), Master of Arts (M.A) and Doctor of Philosophy (Ph.D.). The entrance examination for this programmes is held at Iranian embassies throughout the world. All the programmes are correspondence courses that rely heavily on self-study text books. On some occasions, group tutorials may be arranged in the main campus both for solving the students' learning problems and familiarising them with Iranian culture and society. However, the numbers of students are kept to a minimum level because of the difficulty of contacting all the students and delivering the study materials on time. The university is trying to solve the problem of distance by means of electronic mail or other alternatives. The associate degree programme is

exclusively for international students. In 1995 there were 96 students from 30 countries with only one of them being at PhD. level.

6. Non-degree Programme

This programme is the only open one in the PNU. It offers as a life-long education to provide a learning opportunity at tertiary level for all adults after basic education. The aim of this programme is described as 'to achieve an integrated and coherent nation, enhancing the level of education, helping people to build a better society and improve their quality of life'. Everybody who can read and write is able to enter this programme, and choose any courses they like from among hundreds of courses, which are offered through the other programmes in PNU. These students can select one or two course(s) during one semester and have to pay all costs much as equivalent programmes' students do (Rls 60,000 Approximately. US $ 20 per course). They use the same facilities as other students and sit for the same examinations. Non-degree students receive an attendance certificate. About ten thousand learners are using this programme throughout the country.

Student Characteristics

The students of PNU can be categorised based on the above programmes. In other words, there are six categories of students at the university and their chief characteristics are discussed below.

Military service is compulsory in Iran for all men over 18 years old. The university students, however, are exempt from this service as long as they are studying at a university. They will serve in an officer capacity rather than as a soldier after graduation. This is one powerful reason for the great demand for higher education in the country. PNU's students were not exempt from the military services at the outset

of the university's existence. Furthermore, the target students for PNU in its start-up phase were public and private employees who usually had finished their military service. Between 50 to 80 percent of PNU's capacity has been allocated to in-service teacher training and provision for other government employees. The other 20 to 50 percent must be shared by private employees and unemployed students. Hence, many young students (aged 18-24) did not initially wish to study at PNU. The average students' age at PNU was, therefore, 33 years in 1989.

In order to expand the university's geographical coverage particularly in remote and deprived areas, the parliament of Iran subsequently approved that the PNU's students were able to apply for a deferment of military services like conventional students. Once approval of this laws was confirmed it dramatically changed the composition of the student body in terms of sex and age. With regard to sex the ratio of male and female students changed from 40% female and 60% male in late 1989 to 33% female and 67% male in 1992. The proportion of female students has not met its previous peak yet. This was 39% female in 1995. With regard to age, the average students' age reduced from 33 years in 1989 to 26 in 1995. Table 5.11 shows the distribution of students in terms of their age.

Table 5.11 Distribution of Students Based on Their Age at PNU in 1995

Age group	No. Of students*	Percent
17-20	9,534	8.86
21-25	43,995	40.88
26-30	27,336	25.40
31-35	15,411	14.32
36-40	7,165	6.68
41-45	2,551	2.37
46-50	417	0.38
51-55	78	0.07
56-60	6	0.005
61 and over	4	0.003
Not indicated	1110	1.03
Total	107,607	100

* excluding Non-degree and international students

As well as these changes, the entrance of so many young students changed the learning atmosphere of the university and may also have helped reduce the withdrawal rate from the university (SAM-4-95).

Before implementation of that policy, 61% of the students were full-time public employees, 19% were private employees and 20% were non-employees. These figures changed slightly after the policy, but later the number of employed students increased when the general and equivalent degree programmes were inaugurated.

The study field of the Persian language and literature attracts the largest proportion of students and the lowest proportion belongs to environmental health students. Although programmes like public administration, accountancy, and business administration have come on later than others, they have been welcomed by students who are working in both public and private sectors. Table 5.12 indicates the distribution of students in terms of their field of study in 1995.

Table 5.12 the Distribution of Students in Various Fields of Study

Rank	Field of study	No. of students *	Percent
1	Persian Language and Literature	23,686	22.00
2	Education	21,636	20.21
3	Public Administration	19,385	18.00
4	Accountancy	11,511	10.70
5	Social sciences	7,459	6.93
6	Mathematics	6,675	6.25
7	Geography	5,430	5.05
8	Chemistry	3,378	3.14
9	Geology	2,239	2.10
10	General Biology	1,931	1.79
11	Business Admin.	1,061	0.98
12	Islamic Theology	761	0.70
13	English Language	576	0.54
14	Statistics	565	0.52
15	Psychology	506	0.47
16	Applied Physics	424	0.39
17	Computer Engineering (software)	160	0.15
18	Physical Education	116	0.10
19	Environmental Health	98	0.09
Total		107,607	100

* excluding Non-degree and international students

During the period 1987-1995 the number of students and fields of the study consistently increased at the university. In the first academic year of its operation (1987-88), PNU enrolled only 5,000 students in 4 fields of study at 28 local study centres. By the end of the 1994-95 academic year, that is to say in less than one decade, the number of students exceeded about 100,000 in 19 fields of study at 120 regional and local centres. Table 5.13 shows the development of study fields from 1987 -95.

Table 5.13 The Development of New Fields of Study

Academic year	Science and technology	Business and management	Social sciences	Total No. of study fields	Increased rate (%)
1988-89	Mathematics & Chemistry	_	Education & Persian literature	4	_
1989-90	Biology & Geology	_	_	6	50
1990-91	Applied Physics	Accountancy & Public Admin.	Sociology & Geography	11	91
1991-92	_	_	Theology, psychology & English language	14	27
1992-93	-	Statistics	-	15	7
1993-94	Environmental Health	_	Physical Education	17	13
1994-95	Computer engineering (software)	Business Administration	_	19	12

Such swift development has never before been seen in Iranian state higher education. The total enrolment of students during the academic years of 1988-95 is presented in table 5.14. Mega-university status (over 100,000) was reached in 1994-95.

Table 5.14 Trends in Enrolment

Academic years	No. of students *	Increased rate (%)	Enrolment Ratio to state conventional universities (%)
1988-89	8,118	-	3.3
1989-90	16,493	103	6.2
1990-91	32,523	97	11.6
1991-92	51,958	60	17.8
1992-93	66,458	28	21.7
1993-94	82,020	23	23.8
1994-95	107,607	31	27.2

* Excluding Non-degree and international students

The PNU's share of students' enrolment shows how important is the role played by this university in responding to national demand for higher education.

In concluding my research I was interested in students' attitudes to the university. Thus I arranged an informal discussion with a small group of students (40 in total) at Tehran Study Centre. This dialogue revealed a variation in attitude between the older and younger students. Older students do not view the university as a viable alternative to conventional universities. In their opinion studying in a distance education university with only a few face-to-face classes is not very interesting. This university, they believe, consisted of an older student body composed mostly of teachers, government employees or private work force, employees engaged in independent study over a period of years to earn a degree to improve their vocational positions. They are supposed to carry all the responsibility for their own learning and must put up with any difficulties. Furthermore, they have to study alone. This group believed that there is no better alternative than face-to-face class-based education.

In contrast, the young students, most of whom are unemployed, have a more positive attitude to the university. They view the PNU as an innovative system in the country which creates an exceptional and great opportunity for them. They think that PNU was their saviour from the long queue of university enrolment. They are also able to study when and where they want and above all in their home cities with their families. But they have a strong tendency to be in study centres for many hours and ask for individual and/or group tutorials - something that tutors do not like so much. They argue that 'we feel we are students when we are in class or study centres!' (Apparently despite their positive attitude to the university they are still thinking in conventional terms). For the sake of these challenges and to reduce pressure on the students, PNU

provides more group tutorial sessions (up to 6 or 8 sessions in a semester) particularly for mathematics and natural science students. The majority of participants in these additional classes are those young and perhaps unemployed students. The university which employs mostly academic staff of conventional universities as part timers realised that traditional expansion could not continue because of financial problems. The policy, therefore, was reconsidered and a new policy was implemented for group and individual tutorial sessions (see table 5.10) in order to reduce the expenses and lead the students towards more independent study (Zohoor and Alimohammadi, 1992). Unfortunately, the students' study habits have not been studied and it was not the aim of this research to do that. But this discussion with the students showed the value of arranging more group tutorial sessions for new students because of their dependent study background and the need to lead them gradually to more independent study methods. This dialogue also suggested that women have more of a tendency to be autonomous learners than men.

Evaluation system

The evaluation system of the PNU consists of two main parts: continuous assessment and final assessment.

Continuous Assessment

As mentioned already, the courses at PNU are mainly based on self-study texts, which are developed for the purpose of individual instruction. The texts are normally divided into separate units. There is a self-assessment section at the end of each unit that helps the students evaluate their achievements by themselves, correct their errors and motivates them to pursue their studies. Apart from this the tutors at study centres are allowed to arrange a mid-term examination or ask students to do a project or prepare a

paper and /or to give a take-home assignment at regular intervals. The headquarters does not monitor these evaluations which make up 25% of students' total scores.

Final Assessment

The final assessment of students is seen as the most important task of the university in order to keep the quality of education at the expected level. For this reason the process is centralised so that the exam of any particular subject should have the same quality and the same level of difficulty. The Test Bank of PNU is responsible for preparing and standardising the tests and questions with the collaboration of the departments at headquarters. These tests or questions are written by the academic staff both at the main campus and study centres, usually two months before the end of semester. These tests or questions are sent to the test bank and kept in a tests archive. The questions for final examination are chosen usually by text writers or an academic staff member in the main campus based on the importance of each unit of the texts. The test bank collects, duplicates, and distributes the questions to all centres one day before the examination date. The administration of the examinations is supervised by an observer from the headquarters with the co-operation of study centres. This is a delicate task which calls for a great degree of precision in planning and organising. The university uses its full academic potential to supervise the examinations. However, the exam sheets are graded by the tutors at study centres. Whenever there are doubts or protests from the students or tutors about the questions or accuracy of grading or administration procedure, the case(s) is reported to the headquarters. Such cases are considered by a special committee and the result is reported to related persons or study centres. The result of the supervised final examinations makes up 75% of the total score in any subject.

Financial Issues

The universities and other higher education institutions in Iran can be classified into three groups in terms of the financial resources.

- State conventional universities and research institutions whose financial resources come mostly from the national budget (about 95%) and from their educational services or research activities (about 5%);

- private conventional universities, higher education institutions and research institutions who derive their budgets from their educational and research services, tuition fees and a very small government contribution; and

- PNU as the only distance education university in the country, having two different financial resources: governmental and non-governmental. The governmental resources consist of a proportion of the national budget, presidential aid or loans and some other public resources which may be allocated if meeting with the approval of parliament. These resources make up nearly 50% of the current and capital expenses of the university. According to the law of the Iranian second Cultural and Socio-economic Development Plan, PNU will be able to use the national budget until the end of this plan, that is in 1999 but beyond then it must be financially self-sufficient. The other public or governmental resources will be available where justified given the approval of parliament just for capital expenses (MRH-1-95).

The non-governmental resources which make up about 50% of the expenditures consist of:

I. Students tuition fees which are determined annually by the University Council and are approved by the Board of Trustees. As shown in table 5.15 these tuition fees form a main portion of the university's revenues.

Table 5.15 Tuition Fees at PNU (in US $)* in 1995

Academic year	Fixed fee	Fees Per Credit Unit	
		Practical	Theoretical
1987-91	20	2	2
1992-93	25	3	2
1993-94	28.5	2.85	2
1994-95	30	6	3

* One US Dollar = 3,000 Iranian Rials

Despite the low rate of this tuition, students have some difficulties in payment. Firstly, for psychological reasons. Education in Iran at all levels is free and PNU is known as a state university and the students of state universities are not supposed to pay tuition fees. Secondly, for economic reasons that is, the majority of students are from deprived regions with low family incomes or they are government employees with limited incomes. Hence, the university is not able to increase the fees very much and has to rely on government subsidies, otherwise it may lose considerable numbers of students.

II. Sales profits from study materials. These profits are still low because most of the users of these materials are students and there is a special reduction for students. Furthermore, the university always, as with other publishing agencies, faces the shortage of paper which despite the large demands for its study materials is not able, therefore, to increase its production.

III. Donations from people, agencies, and/or foundations. Acceptance or rejection of these donations depend upon the approval of the Board of Trustees.

In 1995, about 3.71% of the total national budget was allocated to higher education (MRH-1-95). The unit cost of higher education according to MCHE statistics in conventional universities was three times more than in distance education. More precisely the unit cost for social sciences and non-technological fields of study in conventional universities was about $ 857 per student per year but it was about $ 300 at PNU. 50% of this amount ($150) is paid by the government and the rest must be obtained by the university itself. Thus while PNU is still in its investment stage of life its unit costs are 1/3 of that of conventional universities. Consequently it spends less money for the same level of education. An overview of PNU's budget (table 5.16) and the number of the students (table 5.12) is the best way to understand the cost effectiveness of PNU.

Table 5.16 The Budget of PNU (in US $.)

Academic Year Budget	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95
Current Budget	857,142	1,300,000	1.547,000	2,500,000	4,590,000	8,203,125	3,672,333*
Development Budget	–	–	237,500	937,500	125,000	6,290,625	3,200,000
Total	857,142	1,300,000	1,784,500	11,875,000	4,715,000	14,493,750	6,872,333

Source: Budget and Organisation Bureau of PNU
* The government cut the current credits of PNU in this year (this will be discusses in the next chapter) and the figure is related to PNU's own incomes.

Budgeting Process of the University

The Budget and Organisation Bureau of the university (BOB) is the responsible organisation for forecasting revenues and expenditures of PNU and preparing the annual budget. The BOB sends specific forms to the faculties, departments and study centres to collect the necessary information about their financial needs. These needs should be clearly justified by each department and study centre. After classifying and analysing this information the proposed plan for the budget is prepared for the following year to present for approval by the Board of Trustees. If the proposed

budget meets the approval of the board it will be sent to the Planning and Budget Organisation (PBO) in October every year. PBO considers the proposed budget in the light of the national financial priorities and submits it to the Council of Ministers along with the whole national proposed annual budget. The council considers it in the light of national macro-economy and the long term development plan of the country. Finally it is presented to the parliament by the President. In the process of auditing the budget at the parliament, the experts of the PBO, and other organisations are invited to justify and support their proposed bill if it is necessary. Eventually the proposed budget bill is approved by parliament and is submitted to the president to notify the state organisations. The PBO notifies the allocated funds to state organisations for implementation.

The BOB invites the principals of study centres on a regular basis to reach an agreement on the budget allocation for each centre. The annual activities of each centre are outlined and the detailed budget of the university is ultimately prepared. At all the stages of the implementation of the budget, the university is responsible for obtaining the revenues sufficient to cover its expenditure. Figure 5.2 shows the process of the preparing and implementation of the budget law at the university (financial year in Iran, begins in March and ends in February).

Financial Monitoring

All PNU's revenues must be deposited with the Treasury General account and are withdrawn by PNU according to budget allocation committee regulations. This strategy is taken to maintain the balance between government receipts and payments during the financial year and the balance between revenues and expenditures.

Figure 5.2 Budget Process at PNU

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┌──────────────┐      ┌──────────┐                ┌─────┐                          ┌──────────┐
│ Preparing the│      │Approval of│  October       │ PBO │  Proposed national      │ Council of│
│proposed budget│─────▶│   BT     │───────────────▶│     │─────────────────────────▶│ Ministers│
│   by BOB     │      └──────────┘                └─────┘  budget (Nov.)           └──────────┘
└──────────────┘                                                                         │
      ▲                                                              Annual budget bill   │
      │                                                                  (March )         │
      │                                                                                   ▼
  ┌─────┐   Notified for      ┌─────┐  Law notified last   ┌──────────┐  Approved annual  ┌──────────┐
  │ PNU │◀──────────────────── │ PBO │◀─────────────────── │President │◀─────────────────│Parliament│
  └─────┘   implementation     └─────┘   week of year       └──────────┘  Budget law (Feb.)└──────────┘
      │
      ▼
 ┌──────────┐
 │Chancellor│
 └──────────┘
      │
      ▼
┌──────────────┐                          ┌─────┐              ┌──────────┐    ┌────────────┐
│Vice-chancellor,│──────────────────────▶│ BOB │─────────────▶│ Faculties│───▶│ Departments│
│Financial Affairs│                       └─────┘              └──────────┘    └────────────┘
└──────────────┘  │                          │
                  │   ┌────────────┐          ▼
                  └──▶│  Financial │    ┌──┬──┬──┬──┐
                      │ Management │    │  │  │  │  │
                      └────────────┘    └──┴──┴──┴──┘
                                        Study Centres
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PNU should spend the allocated budget including both the governmental budget and its own incomes according to the National Council of Accounts being under the parliament regulations. Controlling and supervising the payments and receipts, and comparison of the payments with the progress of the plans is the responsibility of the Financial Management of the university which, in turn will be controlled by the Ministry of Economic and Financial Affairs. The operational control of the various units of the university is done by the experts of PBO with co-operation of BOB at PNU to ensure that the funds are allocated appropriately and are spent in order to attain the determined aims of the university.

Planning to Increase the Income Resources of PNU

After termination of the war between Iran and Iraq in 1988, the country was required to be reconstructed. Iran is still in an economic crisis due primarily to the drastic decline in oil price as the main income resource of the country, economic sanctions,

demolition of industrial and agricultural institutions, and tolerance of the heavy expenditure of the war. These and other social, cultural and political factors brought about greater problems for the country. These problems inevitably affected higher education and PNU. Decreasing the government share of the PNU's budget affected its development rate. Recently PNU realised that it should, therefore, not rely too heavily on government funds in order to keep its development process steady (HAA-5-95). There is a danger of a decline in the number of students if the tuition fees are increased on the one hand, and the need for more funds on the other. Hence, the university must think about other methods such as increasing the production of study materials, which are in great demand in the book market, so decreasing the costs, and finally finding other resources (HAA-5-95). Other measures include offering non-degree open courses and making contracts with other public or private organisations to provide a special course for their employees to improve their skills and knowledge, and encouraging the community to contribute to the university's activities by donation. It remains to be seen how fully these efforts will succeed in the future.

International Collaboration `

PNU is the youngest university among the higher education institutions of Iran; and is among the younger distance education universities in the world. It has faced many challenges with its internal problems, preparation for rapid development, issues of sustainability, and need for stronger financial support. Opinions were therefore formed and positions taken to strengthen the international collaboration between the PNU's top managers on the one hand, and between PNU and the International Collaboration Office of MCHE on the other hand. International collaboration, unfortunately, is closely concerned with political issues and our politicians-irrespective of the reasons -

were suspicious about this sort of collaboration. For this reason, first of all it was decided to arrange some visits to and from the distance education universities or institutions in Asia. It was during a visit from the Allama Iqbal Open University in Pakistan in 1989 that the Iranian delegation proposed considering the membership of PNU to the Asian Association of Open Universities (AAOU). One year later PNU became a member of AAOU. Then, PNU actively participated in all AAOU conferences and contributed to the exchange of experience among members by presenting its own experiences.

Furthermore, as mentioned earlier, PNU has signed a protocol with Russian authorities concerning the use of their satellites to broadcast university television programmes to cover all the country as well as some neighbouring countries in which the Persian language is spoken. While the initial stages of this plan have so far been financially met by the Rial currency budget, PNU now needs to equip its science laboratories and set up a studio for the production of audio - visual learning materials. The university has asked, therefore, for a loan of 100 million US dollars from the Islamic Development Bank (IDB). The Bank is now considering this request.

Planning for Using an International Network

To date, PNU has not established a mutual agreement with the other distance education universities world wide for the exchange of experiences. It is, however, trying to establish a data network to connect with other international agencies and/or distance education universities. In this respect it is proposed to use the Academic Data Network (ADN) facility which was recently set up by the Data Communication Centre (DCC) of the Ministry of Communication. PNU is authorised to use this centre for co-operation and collaboration and has been allocated a data code. The data network of

Iran which is called Iran PAC is also connected to ADN. The network is, therefore, connected to other international databases such as Compu Serve, Mintelnet, BTX, Dialogue, Orbits, STN, etc. It is intended to connect the main campus of PNU as well as regional and local study centres to the Iran PAC. This will enable the university to have access to an international network that can communicate with its study centres. Moreover, the university will then be able to serve other institutions in Iran which are connected to the Scientific Data Base Platform (SDBP). This is a part of the agreement between PNU and the Ministry of Communication (see Askarian, 1995).

Iran PAC is not only connected to internal organisations and educational institutions of all levels but also to international networks such as Trans Pac in France, DATEX-P in Germany, IPSS in UK, Venus-P in Japan, HINET-P in South Korea, Sprit Net in USA and in several other countries.

Iran has, consequently, access to international data bases in other countries in many different fields of speciality. It began planning for the creation of a data base which is mainly connected to public institutions and universities, and access to scientific sources on the international scale.

The historical, geo-political, demographic, economic and socio-cultural contexts in which distance education in Iran has developed and within which it is expected to grow and to flourish, are complex. It gave rise to the organisational structure, level of enrolment, problems of staff recruitment, institutional capability and, potentially restrictive intellectual and professional environment for distance education. The chapter which follows, analyses the theoretical framework of PNU, its policies and, the planning and management models which it has adopted in response to these challenges.

CHAPTER SIX

The Planning and Management of PNU: A Critical Analysis

Introduction

This chapter analyses the philosophical and theoretical foundations of PNU in the

light of a framework derived from Peters' (1967, 1994) industrial theory of distance

education reviewed in Chapter Two. The planning and management processes of the

university, as documented in Chapter Five, are also evaluated from this perspective,

and with regard to the analytical framework provided by Hodgkinson's (1991) model

and other relevant theoretical perspectives derived from the educational management

literature reviewed in Chapter Three.

Philosophical and Theoretical Foundations of PNU

Philosophical Foundations

From the previous chapter it can be seen that during the setting up of the PNU many

of those involved remained uncertain about the concept of distance education, its

methods, models and theories. Some ambiguity also existed relating to the meanings

they chose to use for concepts and models in distance education, and this inevitably

effected their ability to direct progress (see Chap. 3 pp. 75-76). The choice of a

system, Keegan (1993:114) argues, does not imply that it is the best, but that the

strategies and tools provided are judged to be competently developed and relevant to the initiative. The founders of PNU first considered a range of potential concepts, methods and models in the light of: 1. their previous experience, 2. the factors which led to the suspension of earlier distance education in the country, 3. popular opinion about distance education and, finally, 4. the international literature (minutes of meeting of the first session for making decisions on distance education, April, 1986). Determining a conceptual framework and building upon existing theoretical models for practice in Iran was a cautious and challenging philosophical activity. Major mistakes could potentially damage the whole higher education system along with the cherished dreams of many practitioners. As a result, the new organisation was conceived as a modest starting point for distance education in the Iranian higher education sector, in the hope that the new experience and infrastructural development would eventually influence the conventional system. Gradual growth was envisaged over the first decade of its life, to be followed by expansion (minutes of meeting of the second session for making decisions on distance education). It was from this premise that PNU began as a distance education institution based primarily upon the production of written material and regular face-to-face contacts. The residential teaching component led to far-reaching and favourable comparisons with campus-based study. This was advantageous because the idea was - and it still is - supported by the general educational and social traditions. Taking existing traditions and attitudes into account was thus of vital importance for the initial stability and reputation of PNU.

This foundation then led the university to base its initial methods, systems and study regulations on the then current traditions of the conventional universities.

Consequently PNU first developed a small-scale, high quality philosophy, even though the country's tangible needs required a large-scale approach to meet the demand for mass access.

The relative success of PNU at the first small-scale stage motivated the MCHE to suggest expansion. But shifting from the small to large scale required more time to be spent on planning. The Minister of Culture and Higher Education acknowledged that the new university should take the experience of FUI into account. This required a great deal of time to be spent on careful planning but did not produce a model to recruit enough students to establish a firm presence quickly enough to gain wide-spread support. PNU was, therefore, rapidly under pressure from the Ministry to admit more students to more programmes of study. In 1988 the Minister arranged a meeting of PNU's authorities with the then Prime-minister so as to strengthen government support. They recognised the shortage of human and material resources at PNU and the Prime-minister (Mr. Moosavi) donated four million dollars to the university as reasurement. The planning team then prepared themselves to take a large step in the development of the new university but, unfortunately, this was the last year of the Moosavi government. The situation is explained in my own diary as follows:

> A new government has come to power. We all have an ambiguous feeling about the future of the university. Rumours have spread about changing the Chancellor of the university. Now we understand why the Minister was insisting on the rapid development of the university (5th September 1989).

New Chancellor and New Policy: Towards a Mega-university

PNU nevertheless received strong political support from the new government in 1989 and more especially from the new Minister of MCHE. The initial support of the existing students, combined with political, social and financial support and emerging public credibility, enhanced the self-confidence of PNU's managers. The new

Chancellor emphasised the policy of the new government regarding the expansion of the university. For this reason, as well as the high unit-costs of small-scale distance education, it became necessary to reconsider the initial philosophy of the university. This was also a great opportunity for reconstruction of national distance education after seven years of suspension. The original plans therefore needed not just tinkering with but a complete rethink. The planners were now, in fact, looking for a model which could be better attuned to both university growth and society's needs. The conservative spirit disappeared. Due to the Ministry's policy in seeking increased access to higher education and the potential cost-effectiveness of PNU given the ever-increasing number of applicants, PNU's initial step-by-step expansion strategy gave away to rapid expansion (Zohoor, et al., 1991). Within a very short time by 1990 a new preliminary plan had been established, increasing the number of programmes of study, the number of students and the geographical coverage of the university (see Chapter Five).

The university changed its previous philosophy and shifted development towards becoming a large-scale organisation. The year 1990 was undoubtedly a turning point in the history of the PNU. It was in this year that the number of students rose by 97% (see table 5.14) and that the fields of study increased from four to eleven. The real use of industrial types of teaching-learning processes was begun for the first time. It was argued that while learning by individual students must be seen as the central aim of the educational process, a large-scale industrial approach to education should be adopted. It was also argued that when society could see that its needs for higher education were being met this way, attitudes would also change to distance methods (the third minutes of meeting of University Council). Preparing distance study systems

and organising student services for only a small group of students was now recognised as wasteful of time and resources. Providing study materials for a large group of students, it was recognised, made greater economic sense and could enhance professionalism at all stages of the course development process through specialisation and division of labour (Rumble, 1986).

PNU's study centres also expanded rapidly with the noticeable financial contributions of local authorities (see table 5.7). The number of students rose sharply (see table 5.14) as indicated above, and programmes expanded from one to five as fields of study increased to nineteen in a very short time (see table 5.13). Holmberg (1981) points out that there need be no discernible qualitative differences in outcome between small and large scale institutions but that quantitative benefits are significant.

Thus the emergence of one of the world's newest mega-universities began to take shape in Iran. Zohoor (1992) commented on these shifts made at PNU and concluded that:

> Initial reports about the result of such shifting confirmed that the new philosophy which was inspired by industrial thought was working well since no substantial problems were reported (Zohoor, 1992).

Senior administrator also voiced similar sentiments during an interview with me mentioning that:

> There was in fact no need for radical changes in the nature of work except for the production of the same course materials on a larger scale and the expansion of student services (DMB-3-95).

Nonetheless, the findings of this research indicate that the radical change in the philosophy of PNU, leading to rapid growth, brought about significant managerial problems in practice which deserve greater recognition if quality is to be achieved.

Before we look at these detailed findings it is pertinent to reconsider the nature and potential of the large-scale industrial model chosen by the architects of PNU.

Theoretical Framework of PNU: The Industrial Model in Action

Theoretical justification is inevitably required for any new form of education which sets out to provide an alternative to that of conventional provision. Many of the informants of this study justified the philosophical orientation of PNU by reference to the 'mass production' nature of industrial theory. The new philosophy of mass education necessitated an innovative framework to enable the university to respond appropriately to a rapid growth situation.

First of all the mass production of study materials which are vital for distance education was proposed. There was an urgent need to arrange new course teams, to further mobilise the publishing house and establish an active assembly line. Deliberations on such issues led PNU's managers to think seriously about the intrinsic characteristics of industrial production, which in turn led them to the adoption of their conception of industrial theory as the main framework for planning. The study reveals that their initial endeavours in this direction were made primarily in reaction to crisis situations which had resulted from the sudden change of policy. Thus one informant stated that:

> We considered this theory [industrial] to provide a more applicable and practical way to run our new policy. I believe that industrial theory is a promoter of our activities in the present conditions of the university. I personally consider all my activities based on this theory (DMB-3-95).

Another informant declared:

> We take industrial theory as an appropriate framework at least as far as the study material production is concerned. We are also trying to put some elements of communication theory into our instructional process (HSS-2-95).

This informant was the only one who talked explicitly about communication theory but since distance education first emerged with the development of communication technology in the industrial revolution, industrial and communication theory can be seen in operation in the majority of distance education universities. Communication theory emphasises two-way communication between teacher and learner, through dialogue and debate. Garrison emphasises the importance of this and argues that:

> The reality is that new and current technologies are hierarchically combined to increase technological capacity and choice in designing effective distance education. A clear differentiation [should be] made between technologies capable of supporting two-way communication and media that only send messages one way (Garrison, 1993:17).

In the light of the present analysis it is argued that the technologies which are used at PNU largely emphasise one way communication, although some elements of two way communication are central to activities such as individual guidance and counselling and group face-to-face meeting.

More pertinently, however, industrial theory in distance education came to occupy an influential position in the 1980s and stimulated many practitioners to recognise its elements in their own practice. This study demonstrates that the founders of PNU also claim that the theoretical framework for this university was largely based on the industrial model. This characterisation also explains their efforts to structure their work processes accordingly, with a growing use of technical equipment to work with, the division of labour and systematised evaluation procedures. To what extent the PNU actually reflects industrial theory in practice is now considered in more detail.

PNU and Industrial Theory

According to Peters (1993a) the main elements of industrial theory are: rationalisation, the division of labour, mechanisation, the assembly line, and mass

production. Each of these elements were observed in practice during the PNU fieldwork, but the extent to which they functioned effectively deserves closer analysis.

Rationalisation

At the early stage of industrialisation the tradition of individual work changed to a mass production process based on the division of labour. Scientific discoveries were increasingly evaluated in terms of practical use and cost effectiveness, as Peters (1967) stated, to achieve the best possible result in view of the steady development of economic and technical process. In other words, to achieve maximum output with the least input of power, time and money. These changes led in turn to the increased importance of preparatory phases of project development which necessitated systematic planning and organisation.

The application of this rationalisation process to the practical example of PNU suggests that, if the industrial model had been well applied the mission, goals and strategies of the university should have been carefully articulated in advance. In practice, however, there is evidence that while decisions about the university's broad organisation, its main instructional components, the development and production of study materials, and so on were made the university was rapidly placed under pressure from the government to begin operating as soon as possible. Thus, the founders did not have enough time to spend on detailed and careful pre-implementation planning. There is evidence to suggest that they prepared a preliminary plan to deal with immediate issues, but they had little time for thinking about planning for the future. However, despite their own misgivings, they did not challenge the idea of rapidly increasing the number of students and fields of study because they had no intention of repeating the FUI experience. In the absence of detailed pre-implementation planning

it is therefore not surprising that various critical problems raised their heads. The development and production of study materials, for example, assumed crisis proportions because of the shortage of material resources, lack of planning and unforeseen issues. The quality of education was thus seriously threatened initially, and a rescue plan for this turbulent time had to be prepared (discussed in more detail later in this chapter). As one informant remarked:

> We had a really critical situation. Thus, wherever we started to act we actually worked based on rationalisation of mass production. For example we were arranged simultaneously in sixteen course teams to produce sixteen self-instruction texts. It was, of course, very difficult because our facilities were really limited compared with the former FUI. Moreover, the arrangement of course teams was too hard because the number of academic members who are able to write academic texts is limited and I think it will be so for the next few years (DMB-3-95).

To a large extent these early years were relatively poorly planned and political forces played a leading role in shaping the new university despite a growing awareness of the nature and demands of the industrial model.

The Division of Labour

This principle of industrialism has played an important role in social science theories from the beginning of this century and Peters (1967) used this principle for analysing distance education in his theory. He states that in distance education the teaching process is based on the division of labour and is detached from the person of the university lecturer.

> The division of labour and the objectification of the teaching process allow each work process to be planned in such a way that clearly formulated teaching objectives are achieved in the most effective manner. Specialists may be responsible for limited areas of each phase (Peters, 1967:111).

The application of the division of labour becomes especially evident when a distance education institution makes use of technology in its teaching process. This will makes

it possible for the transfer of knowledge and skills from one specialist to a theoretically unlimited numbers of students.

This principle is applied at PNU both in the development and production of study materials, and in teaching -learning processes.

Division of Labour in the Teaching-learning Process

The shift in the location of study from the campus to the work place and home, was a fundamental change which can be characterised by the move from a pre-industrial to an industrial era. What is involved in changing the location of the study from 'school' to home? Primarily this change means distance educators need to individualise instruction. It might be thought that this shift is a social change but it is not only social but also technical. An important consequence of this socio-technical change was the separation of curriculum from pedagogy, production from delivery, course development from research and lecturers from students (Peters, 1967). These separated tasks need to be done by specialists through the use of rigorous division of labour for the better running of the large-scale industrialised form of education.

At the outset, due to the small scale of its operation there was not a visible division of labour in PNU's teaching-learning process. The development and production of a limited number of self-study texts, support materials and the distribution of these materials was relatively easy. Furthermore, running tutorial and face-to-face sessions and the assessment of students progress by a limited group of academic and non-academic staff was not a complex process. However, when the number of students, study centres and programmes of study was growing swiftly and the number of academic staff remained limited, PNU changed its methods of teaching and increasingly applied the principle of the division of labour in the teaching-learning

process to enable the university to use its limited human resources to the best effect. One informant noticing this said:

> It was impossible for the academic administrators to function within the previous framework. The fact is that the development of those semi-specialised and specialised courses demanded the recruitment of subject specialists who could write self-study texts at headquarters or could run tutorial and counselling affairs in the study centres (MHB-6-95).

Moreover, the use of division of labour in the teaching-learning process helped the university to overcome the shortage of skilled staff at tertiary level in Iran. As another informant pointed out:

> Through the division of labour, the issue of the shortage of academics was resolved relatively quickly. There were sufficient academic staff at conventional universities based in the same cities within which PNU has a study centre (AHA-7-95).

The important point in the utilisation of the division of labour, as Wilson (1990:15) argues, is making the right decision to fill the right job with the right people. The importance of good bureaucratic organisation becomes evident here. Such an organisation would be able to co-ordinate the separated teaching-learning functions so that most phases of this process can take place without the intervention of high level specialists. For this reason the teaching-learning process was divided into three parts each of which has its own subdivisions at PNU: the development of study materials; tutorial and counselling; and evaluation. The first part of job is done at the headquarters with the co-operation of the departments and faculties. The other two roles are carried out in study centres which are allowed to recruit tutors they require. This reflected a remarkable change in the teaching-learning process of PNU from the individual teaching activity of teacher in pre-Fordist mode to the Fordist mode of industry based on division of labour. As documented above, PNU was successful in recruiting the academic staff of conventional universities for administrating its face-

to-face residential classes and tutorial sessions and assessment processes, but the recruitment of academics for writing the study materials still remains to be solved. As one informant pointed out:

> While numerous course-teams were set up and a considerable number of texts were prepared and published, the process of course development was so complicated and time consuming that the output of the course-teams did not meet the demand. The main reason is the scarcity of specialists who could write self-study texts (SAM-4-95).

Although the university sent an invitation letter to almost all the academics at conventional universities for co-operation as part-time or contract staff for text writing, and the payment was relatively high, the number of academics who answered this invitation was limited (Zohoor and Alimohammadi, 1995).

In practice, limited access to specialists also made the use of the division of labour in the teaching-learning process difficult, particularly in regional and local study centres. Because the nature of help available was generalistic rather than specialist it was difficult to solve all the learning problems of students in these centres. Course materials were the product of a team of specialists and, as Morgan (1993:77) pointed out, it would be unreasonable to expect every tutor appointed to mirror this range of abilities in supporting students through their study. For this reason students asked for more face-to-face classes and sometimes pushed the managers of study centres to invite the authors of texts to solve their learning problems (AHA-7-95 also see Chapter Five).

Despite these problems it was largely the division of labour which enabled the PNU to deal with its rapid expansion and to respond to its large number of students. The whole teaching-learning process which was split into various areas of responsibilities at PNU is illustrated in figure 6.1

Figure 6.1 Division of Labour in the Teaching-learning Process of PNU
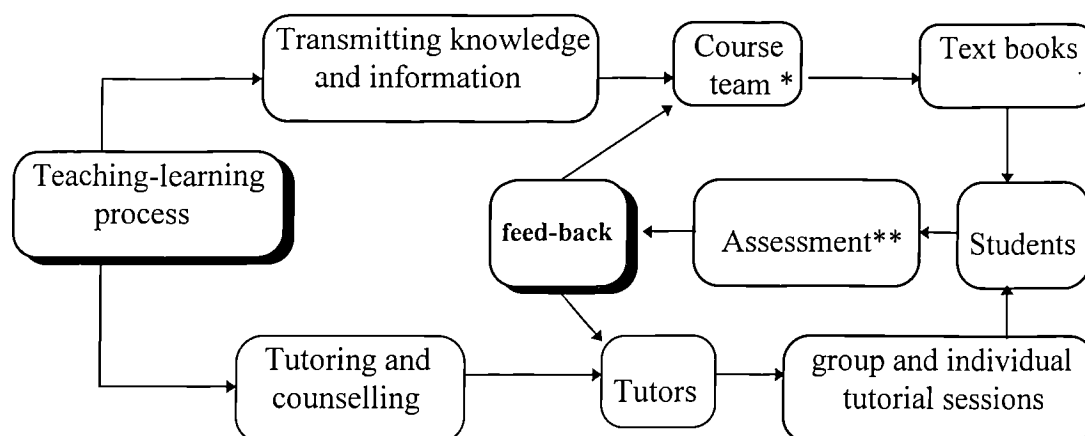
* See its combination in figure 5.2
** See the procedure in Chapter 5

As can be seen, specialist course writers and tutors do not act autonomously. Each of them is a member of team which is functioning as a teaching-learning system. This is a clear result of the division of labour. They could not work without the rest of the university (Peters, 1989).

This process, however, created a serious critical debate between old and influential academics who saw it as fostering fragmentation and compartmentalisation of the teaching-learning process, and the advocates of it who took the view that this process facilitated the teaching-learning process. One informant, for instance, argued that:

> The participation of academic and supporting staff at study centres in mid-term and final examination marking the examination sheets, distribution of study materials, arrangement of tutorial and face-to-face class meeting and other activities in the framework of the division of labour helps the academics in the smooth running of teaching-learning procedures(SAM-4-95).

The advantages of this specialisation, and the division of labour, for PNU, as at least three key informants emphasised were the:

- effective use of specialists' time and knowledge in order to make the planned teaching-learning process more operational;
- involving of middle level academic staff and students in the correction and revision of the study materials;

- freeing of professors and tutors from unnecessary time consuming activities (DMB-2-95, SAM-4-95, and DAL-12-95);
- improving of the quality of teaching because of the contribution of the experts among whom the work has been divided (Peters 1989:6).

Division of Labour in the Materials Production Process

As in the teaching-learning process, the principle of the division of labour was not

fully utilised at PNU in materials production during its starting phase because, as in

the industrial production process, the number of human resources and the level of

their previous training was too low. As PNU's experienced and trained human

resources were developed and its functions were expanded, the potential of the

division of labour improved to such an extent that, at present, its material production

process can be seen as a Fordist mode of production. In response to its rapid

expansion PNU adopted the division of labour right through to the publication

process; from the production to distribution of study materials. One of the informants

of this study thus pointed out:

> In Printing and Publishing Centre (PPC) we are following the industrial management principles. The division of labour and planning for production have more importance in our work processes. In fact, by using these principles we have been able to produce 850 books totalling 3,600,000 copies during a six years period [1988-1994] with only 113 technical and administrative staff (MKA-9-95).

The production of study materials which are the major component of instruction at

PNU is as important as the development of them. The effectiveness of the teaching-

learning process is particularly dependent upon the very careful planning of

production so that the study materials meet the students on time. Despite the

remarkable achievements referred to above, PNU is still suffering from a shortage of

printed materials and the ineffective distribution of them to meet deadlines. One

informant explained the reason for these problems by saying that:

Full utilisation of the division of labour needs skilled technicians and other resources. Despite the need for more technicians and skilled staff PPC was able to increase its outputs. At present, each technician or staff has to deal with several different activities (MKA-9-95).

This comment, however, was criticised by another of the key informants of this study who believed that the problem was not only because of the shortage of staff or technicians it was also because of organisational and managerial factors and limitations. The same informant further argued:

In my opinion PPC has firstly an instructional role in the distance education system. Hence, it must operate under the related Vice-chancellor's office. Secondly the existing staff of PPC should be rearranged in order to be more efficient. I believe that PPC can be more efficient than it is (DMB-2-95).

With regard to the first point made by this informant, it must be noted that the mere fact that PPC produces study materials does not prove his point of view. There are two distinct organisational sub-systems for two different functions of the university namely production and academic. The main reason why these two sub-systems have separated is because it is argued that the production sub-system should be administrated according to industrial management principles and the latter according to educational management theory. There are, of course, some contradictions between the functions of the two sub-systems that may end in managerial problems. This study suggests that the resolution is not to be found in bringing them together, but in good leadership. The role of strong leadership in such complex organisations becomes evident here. Supporting the second point made by this informant, Peters argues that:

If we analyse our society in its present state of development we can already discern definite developments breaking away from industrialism. More and more enterprises of the car industry, for instance, are giving up production at assembly line and are establishing small work groups in which each group member is no longer engaged in one activity but rather in a variety of activities in a craftsman fashion (Peters, 1993:40).

237

Training a multi-skill workforce can be a practical resolution to the problem of the shortage of skilled personnel, and in keeping down their training expenses in a developing country like Iran. Using the limited workforce efficiently at the Printing and Publishing Centre of the PNU is a good example of this. The previous informant was confident that the PPC was on the right path and working well.

> We applied standards determined by industrial management. This process is used in all the duties and activities at PPC. But the expansion of the university was so fast that not only PPC but also the other sections of PNU could not cope with its expansion rate (MKA-9-95).

My own observation showed that the principle of the division of labour was applied relatively well at PPC, and the problem was not in the production line but in the development process of study materials. The best reason has been given by Abdipour (1995:141) who observed:

> Presently, all the printed materials of PNU are produced by PPC. Moreover, the centre accepts the orders from the other organisations to fill the vacant capacity of the centre.

The process of the production and distribution of study materials is shown in figure 6.2. This figure illustrates the division of labour and assembly line at PPC.

Figure 6.2 The Process of Printed Materials Production
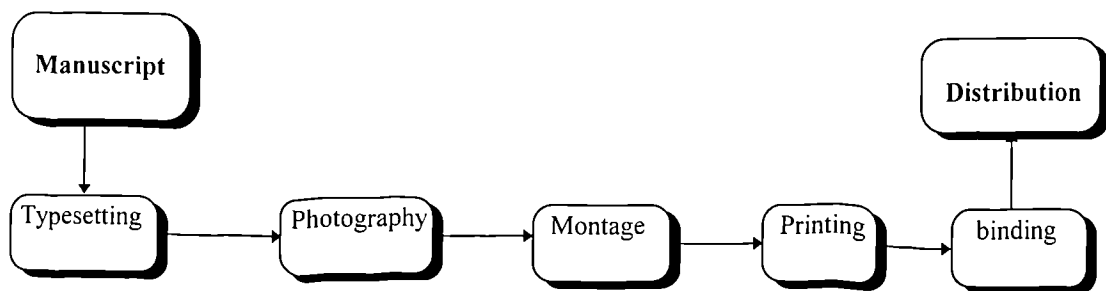
Mechanisation

The mechanisation and automation of work processes became necessary when the need for mass production became evident. Distance education institutions use varying degrees of mechanisation in different countries. Some developing countries use dependent machines which belong to the first stage of industrialisation and some others, like PNU, are using semi-automatic and automatic machines which are best characterised by the second phase of industrialisation (Fordism).

Mechanisation of Teaching-learning Processes

Division of labour is a precondition for the mechanisation of work processes in teaching-learning and material production. As mentioned earlier, education at PNU is primarily printed-based. Print itself is, of course, a technology but PNU does not rely entirely on printed materials. It also uses other media, such as television and audio-video cassettes along with other instructional technology. Nevertheless, from its students' perspective, the greater part of their study, and at least their perceived main resource for assignments and examinations is based on the printed text book. One of the students in an interview with the reporter of 'Bashir' (a weekly magazine) complaining about delay in receiving his study materials states that:

> Our main resource of study in this university [PNU] is self-study texts. We could not make ourselves ready for final examination in the end of semester because we received those books in the last few weeks of the semester (Bashir, 29th December, 1992 see also Keykan, 26th December, 1993 and Resalat, 21st January 1994 daily news papers).

The mechanisation of the teaching-learning process and the release of this process from the constraints of the traditional work of individual teachers made the mass education and mass production of graduates possible at PNU. An informant declared:

> The experiences of the two correspondence faculties of ABU as well as those of FUI [see chapter 5] provided a firm foundation for the utilisation of educational technology and designing quality study materials for this new industrial form of education. The media chosen were self-study texts for independent study,

personal and group tutorials, TV programmes, multimedia libraries, audio and video cassettes and experimental kits (MKH-8-95).

A number of factors become clear when the mechanisation of the teaching-learning process is analysed. These include learners being largely removed from the conventional constraints of schools and the dynamics of group-learning, in favour of greater independence and taking greater responsibility for their own learning arrangement within the course. However, the value of these factors is dependent upon the quality of the educational interaction that is employed through the mechanisation process. Because the delivery of most parts of a teacher's activity is done over the media does not remove the significance of two-way communication. While there is almost an infinite variety of ways in which technology can be used for the mechanisation of teaching-learning processes, several relatively distinct approaches can be adopted to establish two-way communication which have pedagogical importance. Bates has expressed a similar view by stating that:

> Despite a widespread belief... that there are no significant pedagogic differences between media (for instance, a lecture delivered by television is just as efficient as if delivered face-to-face), shifting even the same medium (e.g. from television) from one technology to another (e.g. from broadcast to video cassette) has significant pedagogic implications (Bates, 1993:216).

One of the experts of the Educational Media Centre (EMC) of PNU during a private conversation with the researcher declared that his own experience reveals that adopting a media without paying attention to the pedagogical consequences may create unexpected issues in teaching-learning process, particularly for students, that may not be solved easily.

Moreover, using technical media required skills that seemed to academics to be too complex and time consuming. They believed that the teaching services of professors, and the support services of counsellors and tutors cannot be mechanised. Despite such

criticism PNU, like other mega-universities inevitably employed the principle of mechanisation in order to utilise the advantages involved in the economics of large-scale operations. In addition they were able to employ the best academics throughout the country for co-operating with its course teams (see Chapter 5 p 196). One of the informants who has no doubt about the advantages of this approach explained that:

> We have had some problems with high level specialists who did not like co-operating with young educational technologists and/or educational designers but later they realised the advantages of using these technology in teaching-learning process. They discussed the methods of teaching at distance with these professors and the fact that they are able to access to thousands of students at one time. The professors also realised the advantages of carefully planning and preparing their teaching materials before giving to students (DMB-2-95).

Indeed, mechanisation of the teaching-learning process, as Peters (1967) believes, made it possible for the student to learn and learn from their study materials many times without using the energy and time of the teacher. He argues in another place:

> ... distance study is not possible without mechanical devices, for example, the letter plus the communication media of the post office, printed matter, radio and television, audio and video cassettes or the computer for the marking of assignments or computer-based tuition representing the highest level of mechanisation, namely automation (Petres, 1989:5).

One of the informants stated that:

> Through the application of the media [mechanisation of teaching-learning process] PNU has been able to offer a variety of courses for a student population that never could be met by any other means. Our trial and error activities for mechanisation of the teaching-learning process paved the way for fruitful and effective teaching-learning procedure not only at PNU but also at the other universities in the country.(MKH-8-95).

Nonetheless, mechanisation of the teaching-learning process gave reason for some critics to criticise the employment of this approach by PNU, for example:

> While this university over-emphasises technical devices, it does not have sufficient media and human resources to use them efficiently. In addition this technological optimism among the managers of the university is baseless. The mechanisation of education has in turn some negative side effects, to which they have closed their eyes (Hamshahri, Daily News, 23 January, 1994).

But the advocators argue that the application of this approach means that thousands of students from deprived and remote areas have access to scarce human resources such as specialist and qualified professors.

At PNU there is a computer centre which is characterised by the full automation of the work process such as registration, the recording of unit credits chosen by students, recording students' files and examination results, financial matters and so on. There are also additional facilities and modern means of communication (e.g. telephone, e-mail and computer network) in use but only for running the current administrative affairs. However, the mechanisation of the complex teaching-learning process still needs much work.

Mechanisation of Material Production

One of the roots of distance education systems is embedded in printed materials. This type of process uses the advantages of the written text to remove the time and space restrictions from the educational process. In the early stage of the development of distance education, written and printed materials were the only means of instructional interaction between teachers and students. The production of these materials was by a craftsmen mode in that time. But when the scale of operation of distance education systems expanded the use of the craftsmen mode was given up and the use of machines became necessary. Nowadays, many academics and thousands of students in large-scale universities, particularly in mega-universities, participate in teaching-learning events by using printed materials as a substitute for instructional conversation. Peters (1993:62) comments on this by stating that:

> The pattern of the 'writing teacher' which has taken the place of the 'talking teacher', today still determines distance education teaching in practice, in spite of all the technological procedure for the development of teaching materials.

Mass production is by its nature the only possible way to respond to large groups of students, and mass production cannot take place without the use of machines and the mechanisation of the production process. PNU proceeded to the industrial production of its printed materials well before reaching the mega-university level. The production of supplementary materials such as television programmes and video cassettes has not yet reached mass production level. The reason for this is explained by one informant:

> The production of television programmes needs high level and almost complicated technology to which PNU has no access. We have to rely on IRIB's experts and technological facilities. Unfortunately, they did not give enough priority to PNU's programmes in both production and broadcasting. Consequently, the university terminated its co-operation with the IRIB and is going to establish its own TV studio but it needs much more investment which is beyond the financial capacity of the university. For this reason the procedures is slow (SAM-4-95).

The establishment of this studio was under way during the field work (see Chapter 5 for more details). As we documented in Chapter Five the EMC has produced audio and video programmes for some courses but the level of technology is not as high as it needs to be. Duplication of the produced programmes is accomplished by simple machines like those used in home. One of the experts of EMC explained :

> The lack of professional equipment is the greater obstacle for mass production of audio-visual cassettes. We are working with home video and audio appliances (MKH-8-95).

Despite these problems, as well as those discussed in Chapter Five, and despite a general movement away from broadcasting among the distance education universities (Bates, 1982), PNU is trying to establish its own broadcasting centre with the technological help of Russia and the financial help of the Islamic Development Bank (see Chapter 5). When I asked one of the key informants for the reason for this ambitious plan he remarked that:

By broadcasting our TV programmes to the general public, PNU will provide an opportunity to a larger audience than its students for learning and help in the cultural development of the people nation wide (HSS-2-95).

Daniel (1995:9) argues that:

... broadcasting requires mega-universities to be clear about the outcomes they wish to achieve. This will be equally true for the newer forms of broadcasting, through satellite and cable. If the sole purpose of using audio-visual media is to enhance the learning of registered students it is better to make them available as audio cassettes and video cassettes.

In my experience, the use of audio and video cassettes may be more practical, easy to produce and cheap. Furthermore, academics feel they have more control over the making of these cassettes and students find them convenient and informal: like a personal tutorial with the course author (Daniel, 1995).

PNU uses various degree of mechanisation in the production of printed materials. For instance, while PPC uses automatic machines for laser typesetting, lithography, photography, montage and copy, other phases of production such as printing, binding and distribution are done by semi-automatic or dependent machines.

The process of study material production in itself is an industrial process built into the whole teaching-learning process as an integral part. Industrial production, in turn, is a complex task that needs to be precisely planned and based on the principle of standardisation. Standardisation reduces the number of components or materials required to provide the range of products that are sent to students. This allows costs to be reduced. In this regard, an informant asserted:

The production managers must always consider the goals of the university and know about the placement of operational system, production planning and project control. I think in this respect we have no problem. The capacity of the PPC to handle this was a key element in making the decision to have a rapid expansion of the university. But level of technology being used in production has important role in making decision about production. Generally speaking, with regard to study material production, the level of mechanisation of the work process at PNU is comparable with the second stage of industrial evolution [Fordism] (MKA-9-95).

It is important to note that the informant sees the provision of mass education in a mega-university as conditioned by the mass production of study materials. The expansion of PNU indicates how important the material sub-system, which covers the design, production and distribution of learning materials, is in the logistical activities of the university.

As the result of the mechanisation of material production, particularly of printed materials, PNU has had a significant influence on improving other higher education courses and attracting many other readers than its own students.

Assembly Line

As industrialisation developed into the Fordist phase, a system of mass production, involving the division of labour and the mechanisation of work process led to the setting up of an assembly line for the production of complex products. The similarity between distance education processes and the industrial production process is particularly noticeable here (Peters, 1967). The assembly line characteristics of PNU, like the division of labour and mechanisation, can be divided into two parts: one for the production of study materials and the other for the teaching-learning process. The assembly line concept is a very important and visible process in distance education. In the development of study materials at PNU, for example, there is an assembly line followed by the course team for the development of study material (see figure 5.1). However, there is evidence to suggest that the course teams are not arranged well at PNU and each area of responsibility has not yet been clearly distinguished. Hence there are always some grey areas in its assembly line. As one informant points out:

In most cases we were not able to bring all the members of course teams together. They were, therefore, working individually. That is to say when the writer finished his/her job the manuscript is passed by the writer to the university and then it is sent to editor, educational technologist and other

specialists so that specific alterations and changes are made at each area of responsibility. Thus, they are working as a team while they do not meet each other. This is actually a distance course team! I think it is still the best way for our circumstances. Now the study material crisis is controlled and the production line is working relatively well (DMB-3-95).

Harry, et al. (1993:112) explain that:

The development of courses may be considered from at least two perspectives: in relation to the logistical arrangements necessary for the development and delivery of courses, and in relation to pedagogical factors to be borne in mind in the creation of materials. In terms of logistics, the best-known means ... is probably the course team method introduced by the UK Open University. This involves a co-operative process resulting in materials which are the product of a team rather than a series of individuals.

The process at PNU, as explained by the informant above, is closer to the series of individuals model -with all its related disadvantages.

There is an invisible assembly line in PNU's teaching-learning process. Initially, the two basic functions of academic staff, namely transmission of knowledge and information, and counselling and tutoring are separated. The first part of the job is carried out by the materials produced by the course team and the second part is done by tutors. The regular and final assessment of performance is not usually carried out by the course writer or those academics who have the main role in running the course during the term. Each of these areas has its own assembly line (Chap. 5 p. 197). In Peters' words the rationalisation effect is achieved by the fact that the limited number of university teachers and thousands of students do not have to meet in one place in order to participate in teaching events. Instead of sending students to learning places, the learning materials are transported to the students which saves time, energy and money, and makes the system cost effective. The assembly line in factories is based on a 'push system' in which those responsible for each area of responsibility pass the work to the next area when finished. In this way the assembly line works effectively.

The assembly line at PNU for both materials production and teaching-learning processes works less on the basis of the push system than on the basis of a 'pull system'. That is to say that instead of waiting for the pieces of work to come to them in due course, it is the next level or the university authorities on behalf of them, that tend to pull the work from one area of responsibility to the next. For example, the educational technologist or the Bureau of Course Production must pull the manuscript from the writer to send it to the editor. That said, the 'pull system' can accelerate productivity if it is employed properly and does not indicate only a delay in action in the previous area of responsibility. Having a related point one informant argued that:

> Obviously various offices in the development and production line of study materials do not work coincidentally. Very often, a decision which is made in an office creates a problem for other offices - even though it is a good decision at that area of work (MHP-10-95).

This informant, in response to my question, 'What then is the Co-ordination Council of Managers for'? declared that:

> At the sessions of this Council only general issues are set forth for discussion. The participants usually stay silent about existing disharmony and do not propound their main problems because more likely they do not want to be accused of being a weak manager (MHP-10-95).

However, the study of the minutes of the meeting of these sessions did not confirm this comment. For example in the third session of this council (2nd, March, 1993) there was a discussion about the existence of disharmony among the various areas of the production line leading to their finding a solution for the co-ordination of various sections in the production line including a flow chart to show how this co-ordination should be done. Executive problems clearly existed in their assembly line and there is much to suggest that there remains much room for improved efficiency of all such processes throughout PNU.

Mass Production

Mass production, which is accepted as a structural characteristic of an advanced industrial society by modern sociologists, occurs in a consumer society where a large quantity of standardised goods require industrial production to make them generally accessible. Mass production by its very nature needs mass consumers.

If one equally rids the term 'consumer' of its negative cultural connotation, one can speak of a student as a consumer of academic education (Peters, 1967:115). If so, and if increased numbers are of importance then we can safely say that PNU's rate of production is on the mass production scale (see Chapter 5 p. 197). We can also say that the graduation rate of PNU is on the mass production scale. Hence, PNU, like other distance education institutions, is - in both an academic and manufacturing sense- a mass production institution. The rule of demand and supply holds true here as well. Peters (1989:5) argues that:

> [We cannot ignore] the advantages of mass production and capitalise on the economics of large-scale operation which enable [mega-universities] to employ the best teachers and experts in the market.

The Iranian government approved the establishment of PNU on account of its similarity to the mass production process and its potential to admit very large groups of students. From the economic point of view all suppliers try to satisfy their consumers. Hence, the mass production of study materials and the distribution of them throughout the country forced the compilers of these materials to analyse the requirements of students as well as other users far more carefully than their peers in conventional universities. This, it is argued, improved the quality of the courses (see Chapter 5). Greater and more equal access to higher education is also now possible irrespective of the geographical location of students.

In the following sections a more detailed analysis of the dilemmas experienced by PNU in adopting an industrial model for higher education are explained, beginning with those concerned with cross cultural transfer.

Dilemmas of an Industrial Model

Dilemmas of Comparisons with Industry

Comparison of an industrial system and an educational system can be problematic. It is not always easy to match the elements of industry to the educational process because:

1. The presence of multiple goals or multiple outputs poses a problem for the interpretation of production (teaching-learning) techniques used by educational institutions.

2. It is quite likely that production functions in education are not uniform for students of different personality and different abilities. And in terms of the management of two systems.

3. The educational managers at all levels lack knowledge of the production set for obtaining particular outcomes.

4. Substantial management discretion does not exist over which inputs are obtained and how they are organised in educational production.

5. In contrast with industrial institutions, as Levin, (1976) points out, there is little or no competition among educational institutions.

As mentioned already, the manufacturing feature of distance education at PNU has much conformity with industrial production processes. With regard to PNU's academic role and characteristics, however, there are many differences. An academic member of staff, for example, is used to a high degree of autonomy in their daily work

compared with an engineer in a factory. Furthermore, it is argued that the administration of a distance education system requires more of a human relations approach to understand the personal needs and interests of staff as well as students (Rumble, 1986). Almost all industrial institutions have clear criteria for their organisational effectiveness, evaluation and rational measures of profit. However, in education there is no such clarity.

Dilemmas of International Transfer

Peters (1989) argues that distance education in its present form is a product of industrial society and thus its success depends upon its conformity with the principles and values of the industrial society in which it is set. Social structure in industrialised society today, it is argued, is based on individualism and much emphasis is placed on self-directing and self-identity because, as Jarvis (1993:167) argues: ... 'as society has become more complex and so much information is transmitted to people, so there has emerged a contrasting emphasis upon individualisation' (see also Amundsen, 1993). In such contexts individuals: feel themselves, to be able to follow their own interests, in their own ways and to some extent be self-directed. Moreover, industrial society has been shaped by scientific discoveries which in turn led the society towards formalised and standardised work processes. Each of these steps led to a change in social organisation's functions. Hence, the ways of thinking, attitudes, life style and in general the culture conformed to the rationale of industrialisation.

One of the outstanding features of distance education institutions in the present day is their variety in spite of their many similarities. The differences that exist among distance education institutions are conditioned by specific cultural, philosophical and technological characteristics of their host countries. These evolutionary processes are

also under way in developing countries. They are now actually moving from the first stage of industrialisation (pre-Fordist) to the second stage (Fordist). So, for the moment they appear to have pre-Fordist and Fordist systems running alongside one another, in parallel or even in close interconnection with each other, rather than one replacing the other. The culture of many developing nations is mainly affected by social values that have a collective feature. Individual values do not have primary importance in this collective culture. Such a culture structures social relations across local and personal contexts of interaction. In industrial societies this sort of interaction is replaced by impersonal expert systems which restructure them across the global context (Giddens, 1990, and Jarvis, 1993). The backbone of the industrial system in developing countries has taken an evolutionary path that mainly relates it to collective culture and traditional systems for the production and distribution of goods and the evaluation and application of knowledge. For this reason much of what is produced does not often meet the industrial standards. Knowledge is not employed sufficiently in industrial institutions to make their work process more efficient and easy. One of the greatest challenges that developing countries like Iran face, is thus the articulation of the relationships between the world of learning and the world of work. While the same principles of industrial production are used as a means for formal reports by non-specialists bureaucrats, the rationalisation of industrialism often does not work as effectively in these countries. Thus, even though PNU tries to apply industrial theory, and its operational procedures appear to correspond to the Fordist mode of production, as we have demonstrated there are many factors which serve to hinder effective implementation. For example, PNU's assembly line in both the teaching-learning process and the materials production process has always suffered from the lack of

harmony between the different areas of responsibilities and been threatened with a shortage of academic staff for text writing. The shortage of human and material resources, mechanisation and/or automation, and the problems encountered in the use of appropriate technology are another dimension of this issue.

Dilemmas of Technical Skills

The use of modern equipment requires technical skills involving the use of knowledge, methods and techniques. As the level of mechanisation changes and/or modern technology has been employed, a change in the mode of operation is required (Peters, 1994). But the work force in the production line at PNU have not been able to change themselves accordingly. Beyond the fact that mankind is not able to change as fast as the technology is changed, there are other reasons why, in Iran, workers are not able to do so. As one informant pointed out:

> The majority of PNU's work force on the production line have a pre-industrial conception of the nature of their work. They are, therefore not able to adjust themselves to an industrial process of work' (MHP-10-95).

This is not only a problem at PNU, it is also a problem for many other industrial organisations in the country.

Dilemmas of Organisational Principles

The organisational structure of the university as explained by other informants is, also, not fully compatible with the principles of industrial theory.

> Although we work on the basis of industrial theory, in fact, we have not succeeded in the approval of our suggested organisational chart at Organisation of Administrative Affairs and Employment (OAAE). They made lots of changes in our original pattern which had been designed according to our circumstances. They had to make their decision on the basis of a fixed framework and rules. Our suggested pattern did not have many similarities to their existing pattern. I remember that one of the OAAE members was arguing that the proposed structure of PNU's organisation is not similar to any other university in the country, so it has very little chance to meet the final approval of OAAE. They consider our justifications very far from the general rule of country's organisations. I was witness of your own efforts in this respect but finally as you

know they approved an organisational structure for the university which did not have much conformity with our mission and particularly with the theoretical underpinnings of the university. For example Publishing House which I consider as an instructional mean in this system, is not directly under the control of the related Vice-chancellor's office, which creates, in fact, a break in the course production chain. However, we are following this theoretical framework despite these sorts of problems (DMB-3-95).

The explanation of these processes by this informant relates mainly to classical management which, as Rumble (1986:104) observes, emphasises organisational structure, whereas in the quasi-industrial nature of PNU what is needed are the skills of production/operation and industrial management, ensuring that study materials are developed and produced for the students on time. Only one of the informants in this study claimed that he had previous experience in industrial management. Salter (1960:13) defines three levels of technological knowledge that relate to production:

- basic principles of physical (or behavioural) phenomena;
- application of these principles to production (engineering level), and
- the level that relates to day-to-day operation.

Since production and academic sub-systems are administered by academic staff at PNU, the lack of knowledge in the management of the production sub-system is a noticeable problem. The informant who had some experience of industrial management argued that:

Educational managers do not have and in some sense do not need such kind of knowledge. For this reason neither their managerial experience nor trial and errors yields much insight to the educational managers on the nature of the production set (DAL-12-95).

Dilemmas of Administration Culture

Another problem relates to the administrative culture of the university. The administrative and financial authorities at the university are currently trying to control all of the university including the instructional process by controlling expenditure.

This can be disruptive to the teaching-learning process and many argue that this is now a problem faced by all the universities in Iran and probably in other countries.

Dilemmas of Feedback

Finally, at PNU there are currently few effective feed-back control systems, which have critical importance in an industrial process. For example, with regard to the quality of graduates, managers justify the assumption that PNU's graduates possess the same qualifications as other universities' graduates, arguing that they are being treated and paid the same by employers. This may be true because of the rule of the OAAE regarding the equality of degrees no matter from which university it has been gained. Another case is made on the basis of the number of PNU's graduates who have successfully passed the national entrance examination for post-graduate studies (almost all of the informants of this case study believed that it was a good indicator for quality of education at PNU). As far as quality control in industrial production is concerned, hitherto a considerable number of PNU's graduates are teaching at guidance schools and secondary schools and there has been no evaluation of their performance. Quality control systems for the teaching-learning process are accomplished by using standard guidelines for face-to-face classes, marking assignments and final examination sheets, and supervised examinations (see Chapter 5 pp 213-14). The more amelioration in industrialisation the more improvement in the control of quality. For example, *quality control in the first division of the teaching-learning process* (transmitting of knowledge and information) was done better than in other divisions (figure 6.3).

Since the process of the production of study materials is more industrialised than that of the teaching-learning process, the quality control system over study materials is

also more efficient. However, quality control in industrialisation requires more standardisation. Hence, all the points in the production line of the study materials from writing to printing and binding are standardised by the university. But the standardisation of the teaching-learning process is a complicated enterprise which requires more time and energy. The quality of the content of study materials is controlled firstly, by course teams secondly, by students and tutors in the study centres and finally, by the whole group of academics involved (see Chapter 5 p 199). 'The reaction of these control groups to the content of courses is registered in order to improve the effectiveness of study materials'(MHB-6-95). In addition, PNU recently commissioned a small team of experts to evaluate and analyse scientifically the effectiveness and success of its three randomly chosen self-study texts. Unfortunately I could not gain access to the final report of this evaluation.

Policy Making and Implementation at PNU

Having examined the philosophical foundations of PNU and considered the relevance and effectiveness of the industrial model for the analysis of distance education in PNU and Iran, the organisational structure and the process of policy making and policy implementation will now be analysed. This part of the analysis is informed more by Hodgkinson's model of leadership which was first outlined in Chapter One (figure 1.1) and discussed in Chapter Three. The model logically separates policy making (philosophy, planning and politics) process from policy implementation (mobilising, management and monitoring) processes. The administrative and management processes of policy making and implementation are located within organisational sub-systems. However, these processes are strongly constrained by national policy arising from outside the university as discussed below.

Policy Making

As discussed in Chapter Five, the Supreme Council of the Cultural Revolution (SCCR) is the main policy maker for educational and cultural affairs at all levels nation-wide. Hence the universities are the passive implementors of the macro policies which are made by this Council. The Council also develops the national higher education curriculum. The universities do not need, therefore, to be involved in broader policy making and curriculum development. They can make only micro policies for the better implementation of the macro policies of national higher education and for the best delivery of programmes. This system has its own advantages and disadvantages. One of the notable advantages of this for PNU is the acceleration of the development of study materials. Another is the increased possibility of exchanging quality study materials between PNU and other conventional universities, as well as in using their academics in writing the courses and tutoring the students.

The planning process at PNU is completely different from conventional universities in Iran and this is discussed below.

Planning Process

Keegan (1980) in his article on the definition of distance education states that:

> The distance education system has daily pre-occupations with lead times, deadlines, print runs, job schedules, type-faces, warehousing, delivery and dispatch and planning decision on educational priorities that must take place two, three years before teaching takes place.

Planning would be an essential element if distance education is viewed as an industrialised form of education. The characterisation of distance education as an industry implicitly underlines the fact that '... distance study must be carefully pre-

planned, prepared and organised' (Peters, 1994:216). 'In distance teaching too, success depends decisively on a preparatory phase' (ibid., 117).

These sorts of recommendations are very often found in distance education literature (e.g. Reddy, 1986; Rumble, 1986 and Villarroel, 1988). Planning is a continuous and comprehensive process of determining the policy priorities and making decisions for future actions (see Chapter Three). The lack of comprehensive planning in this field can generate many problems. For example the planning committee of the Sukhothai Thammathirate Open University in Thailand spent three years in its planning stage to formulate an open university project (Chaya-Ngam, 1986). As revealed here, the situation in Iran was very different. The re-establishment of a distance education university in Iran after the cultural revolution was a response to an ever increasing demand for higher education which was gradually becoming a political problem in the society. The decision to develop this university was, therefore, largely based on political factors as well as the educational needs of society. PNU was expected to start its operation as soon as possible. Thus, those who were in charge of setting it up were not given the necessary time to conduct a needs analysis, and identify the target students. Perhaps more importantly, they were not given enough time for preparatory planning. Such activities are time consuming but as Jennings (1988:120) points out, 'in politically motivated change efforts, speed is of the essence' since politicians are very often concerned with meeting their own targets to impress to the public. This pressure for rapid innovation is found in other developing countries. For example, the preparation committee of the Universitas Terbuka (open university) in Indonesia was given only nine months to establish and operate (Setijadi, 1986). The state government in Andhra Pradesh, India, had also taken the decision to establish an open

university there before it set up a committee for the preparation of a project proposal (Committee on the Establishment of an Open University, 1982 cited in Rumble, 1986:87).

It is argued here that one of the main reasons why innovations often fail in third world countries, is because innovators or their supporters try to achieve far-reaching change within a most unrealistic time. A period of between five to ten years is regarded as a long term. Bearing in mind the fate of FUI in Iran, and being understandably concerned as to how best to make a new start led the PNU's initial managers to plan their activities rapidly, and instead of thinking about the long-term future, they focused on immediate needs in the next academic year. There were only two and a half months to prepare everything. The former Chancellor of PNU, with a little irony, characterised the situation by stating:

> Everything was promising as the system was so devised as to follow the step-by-step strategy for its development (Zohoor, et. al., 1991).

A committee was set up to design the organisational structure and another for course production. According to the national curriculum of higher education there are between eight and ten basic courses carrying twenty to twenty four unit credits which are compulsory for students in every field of study. It was a great advantage to start with five disciplines simultaneously because all students in different fields of study could use the same course and study materials. Therefore, the course production committee planned to develop eight self-study texts for these basic courses during the available time. Another consideration which had to be taken into the account was the quality of any new texts. Quality had to be mauntained, despite the time constraint, to prevent undue criticism.

The organisation committee on the other hand had to design a new organisation for which there would be inevitable criticism given the precedent of the FUI. As Holmberg (1981) pointed out there are several ways of operating this type of education particularly when serving a large number of students. PNU was an independent distance education university and needed its structure, functions and procedures to be sufficiently clearly defined. This in turn needed sufficient planning time. As already documented, PNU's founders took a pragmatic line and set up a temporary and tentative organisation in order to run daily affairs. The design of the ongoing organisation of the university awaited further consideration, which lasted about five years.

Reintroducing a distance education system in such conditions, in such a short time, presents many additional difficulties. There were many different processes involved that needed to be carefully synchronised. This situation was perplexing to those involved since little time was available and this turbulent time called for more flexibility. Much advice available in the literature (e.g. Keegan, 1980; McCunne, 1986 Reddy, 1986; and Rumble, 1986) was of little help because it related to relatively stable environments. However, in the case of PNU, the situation was entirely different. It was, in Carlson's (1975) words, a 'wild organisation' which had to struggle for its survival. 'Support for them is closely tied to quality of performance ... Wild organisations are not protected at vulnerable points as are domesticated organisations' (p.191). There were consequently great tensions for the managers who were seeking to employ different style and strategies. Illustrating this point one of the informants of the present study was clear that the university was under external pressure and managers were intent on trying to protect their operation from external

interference. He considered this situation as a characteristic of third world countries arguing:

> I personally believe that in the countries like ours you cannot find a stable environment to plan for the long term. Major policy for higher education is made in the SCCR the majority of whose members are politicians. In such conditions where the country considers economic limitations and shortage of financial resources, you cannot think about long term planning which needs huge investment with very high risk. Hence, in my opinion you must start the operation and go ahead step by step. We were aware of principles of planning for a distance education system based on industrial theory but we did not have the required resources (DMB-3-95).

Similarly the former chancellor of PNU who has a long experience in Iranian higher education, in an informal discussion with the researcher remarked that:

> In our country the manager must not wait for everything to be ready. This moment may never arrive. So, I had a strategy: 'operate then justify'. You should put the politicians in a position where the task has been done. Then, they would have to support you because you have something to show to them.

It is worth noting that it was he who designed and implemented the rapid development plan of the university based on this philosophy.

The result of interviews with five other informants confirm that such flexible planning enabled the managers to respond rapidly to environmental changes. They thus prepared a detailed implementation schedule for one semester for the development, production and distribution of the study materials as well as for the implementation of the student administrative and teaching system.

> Our rationale for this flexible stage by stage planning and implementation was that we would be able to control the situation and to consider various ways to achieve the objectives and to choose the best. Moreover, in this manner we would have the opportunity to correct or change our direction when and where it was necessary and prevent the organisation from the extensive influence of wrong decisions. I think this was a successful approach and we do not see any reason for changing it. (DMB-3-95).

Despite these arguments, the majority of principals of study centres at their seminar in Ghazvin (October, 1995) were not satisfied with this planning approach, arguing that

they could not change front line action in the same way as others changed direction at headquarters. In conversation in the hotel where we stayed most complained that they never felt stability in their work process because they were working on the basis of a plan which might change in the next few days or next month. They believed that it was not fair for the accelerating of managerial affairs and considered the present situation of the university as a crisis which had gradually become out of control.

The Problem of Rapid Development

Flexible planning itself may not be the real cause of criticism. In the light of this study it is argued that it was rapid development that created the biggest problem. This was unrealistic for available resources and beyond the managerial capacity of the university, which was suffering from shortages of academic and support staff, along with financial and material resources. The relationship between the number of students, offered programmes, the number of study centres, and the recruitment and training of the work force of the university was inappropriate.

> The academic and non-academic staff were too pressed for time with limited resources to meet the needs of a young, inexperienced, rapidly expanding distance education system (Zohoor, et al., 1991).

Rumble (1986:141) argues that:

> As long as resources are plentiful, institutions can expand and the untrammelled proliferation of programmes and activities can proceed broadly unchecked.

This proliferation of programmes and activities certainly happened rapidly at PNU beyond acceptable limits. There is evidence to show how the planners of the university hoped any increase in the number of students would increase the university's revenue. They would then be able to ensure the necessary financial resources for expansion. In practice this assumption did not hold true. The increasing rate of tuition fees no longer kept pace with the ever increasing rate of inflation and

the state resources did not increase according to their prediction. This generated major problems for the organisation at this stage of its development - but the rapid increase in numbers helped to establish a visible foundation.

There are, as Rumble points out, three approaches to the development of distance education institutions:

1. To mount a small pilot project, evaluate the result, and then decide whether or not to expand the system to a major project.
2. To implement a full-scale project immediately, and
3. To adopt an incremental approach in which the basic infrastructure is fully implemented from the start but volumes rise year by year [as the human and material resources are increased] (Rumble, 1986:99).

PNU tried to pursue the third approach but, as discussed above, did not wait for an increase in its resources before major expansion. By 1994 it came under external and internal pressure, this time to stop its rapid development. The former Chancellor of the university believed that having a university with problems was much better than not having one at all. This comment supports the view expressed earlier that the rapid development of the university, without regard for its existing and potential resources was, largely, due to political reason. Typically, this sort of development is necessarily relatively unplanned. The target for the university was to grow to overall 200,000 students in 120 study centres by the year 2000 (Zohoor, et al. 1992). However, the number of students had already risen to 200,000 (PNU's statistics, 1997) in the academic year (1996-97) and the number of study centres reached the target figure in 1995. A glance at tables 5.7, 5.13, and 5.15, indicates that the university developed much faster than had been predicted. Planners ignored their existing plan and operated on political expediency which created many problems.

> Obviously, a multitude of problems had to be solved in the second year [of the rapid development of the university]. Providing student services, the preparation of study materials with limited budget in a short period was a tough task (DAL-12-95).

While planners usually try to establish a balance between planning for the maintenance of existing programmes and planning for development this became skewed at the early PNU very much in favour of development. The criticism of middle level management and principals of study centres is also understandable viewed in the light of the problems they faced by rapid change, for while they were able to predict the probable shifts or changes in headquarters policies, they were not able to predict how, when and what kind of change would occur. This in turn created an uncertain and relatively anxious environment at work. Thus, rapid development and rapid change have left both the university's policy makers and managers less able to understand the issues they faced and less able to see how their actions might improve the present condition. Wallace (1991:185) argues:

> Planning for development and maintenance encompass strategic tasks, concerned with overall policy, and more detailed planning of each initiative. Decision making lies at the heart of both policy making and detailed planning and is frequently associated with other sub-processes such as consultation, negotiation, and giving information about decisions taken.

Since any effort directed towards logical planning involves decision making and decision making is a managerial task, this process and research findings about this are discussed in the light of different management models later in this chapter. To put this into context, however, first it is worth examining the conflict between the macro educational policy of the country and the micro policy of the university.

Two Different Models of Planning: Conflict Between Macro and Micro Policy

The policies which are made by the SCCR are communicated to the Planning and Budget Organisation (PBO) to be implemented in the five year development plans of Iran. In doing this the manpower model of educational planning along with the cost-

benefit approach, is widely used by the experts of PBO in the country's macro plan for development.

Iran has been affectionately referred to over a number of years by its citizens as a 'lucky country', but is now experiencing severe economic difficulties. The government, in defending its economic policy, tries to place the blame for the country's present economic woes on outside factors (e.g. war, decline in oil prices by western countries, economic sanctions, the rise in prices world wide, etc.). The high rate of inflation, high unemployment, low productivity - in combination a recipe for economic disaster - have caused most Iranian politicians, particularly those in government, to reflect on where it all went wrong and how it might be corrected. In such depressing circumstances, a scapegoat must be found. The finger of suspicion has been pointed, in recent times, at a variety of supposed culprits; unproductive people, merchants, trade agencies, employers, those who have sacrificed national interests for self interest. Public institutions, such as the educational system in general and universities in particular, are also seen to use a large percentage of the country's Gross National Product (GNP) without demonstrating cost efficiency. Thus, critics argue that it is the fault of universities that our industry has failed to keep up with the advances of technology and has failed to ensure quality control of its products. Universities have already lost control of their own curriculum development through the new policy of the SCCR, which developed the national curriculum for higher education.

The prevailing socio-economic condition of the country has further influenced decisions related to the allocation of resources. The government has tried, therefore, to

allocate key resources to deal with national priorities. In this regard the PBO decided to emphasise two aims in national educational planning:

1. to minimise the unemployment rate in the country (PBO, 1992 p. 0.1)

2. to minimise the cost of education (ibid. pp. 7.2, 7.18-24).

With regard to the implementation of this policy, in 1993 the PBO decided to allocate the state budget to the universities on the basis of per-student expenditure. This was an incentive to PNU and other state universities to start to increase their enrolments as fast as the development of their study fields would allow in order to acquire a greater share of the governmental budget. The result was a major quantitative expansion of all universities at the price of quality. In addition to this PNU has striven for economies of scale and sought to expand its enrolment to take full advantage of these economies. The separation of the course production process from course delivery and student services at PNU has also made it possible to expand student enrolments as far and as fast as the market will allow.

The dramatic increase in the number of students throughout the country (from 165,000 in 1979 to 1,300,000 in 1996, [MCHE, 1996]) has of late made it clear to policy makers in Iran that they should stop the quantitative development of the universities in favour of quality and give greater weight to the vocational and technical, to science and technology rather than to subjects such as literature, art, history, music, and social sciences- the fields which PNU's educational programmes are largely concentrated on. In other words, from 1993 the changing needs of the economy, suggested the change of the type of programmes offered, fields of study and quality of the opportunities provided. Implementation of this policy by the government created big problems for PNU. Changing the curriculum and shifting from social sciences to natural sciences

and technology was not an easy task. The university needed more investment in the development and production of study materials and recruitment of new academic staff. There was a paradox. 'The government made this change as a condition for allocating the budget' (MRH-1-95), and in turn this change needed a larger budget. The implementation of this policy was thus very difficult at PNU. The result was a cut in the government share of budget which was 50% of its total budget. The government, in fact, used a 'power-coercive' (Chin and Benne, 1969) strategy to force PNU to follow its policy by political and economic pressure. Their rationale for this decision as explained in parliament was that this university would create a problem of graduate unemployment for the country if allowed to continue to expand (Newsletter of PNU, 1994:3). With so much of the budget effectively committed well in advance of the normal budget setting timetable for the production and delivery of study materials, major difficulties arise. Rumble (1986:159) believes that distance education systems can be particularly vulnerable to sudden cut-backs in expenditure. Such institutions, therefore, need to pay particular attention to the political climate within which they have to operate (p.160). As a result of this PNU was, in practice, compelled to reduce its expenditure by thrift, austerity and saving in recent years.

Although the university experienced an economic crisis for a while (until the resolution of the problem by the parliament under the pressure of more than one hundred thousand students from more than 200 cities) its managers learned a good lesson for their future action. The austerity policy is still continuing at PNU. Establishment of new study centres has stopped and the admission of students for literature and educational sciences has reduced or fixed. Within a short period, the

climate of concern for all things that cost money created an imperative for change and reform.

The government has redefined the country's educational system as an instrument which must better serve the labour market, but this has created financial instability in the university, precisely to force it into the market and to make it responsive to labour market (Cowen, 1996). The government also made it clear that it expected value from the state educational system for every Rial spent on education. Educational administrators were expected to provide evidence of value for money in terms of quantifiable outcomes, without considering that some of the most highly valued outcomes of education are not measurable in such a way. Bear (1986:6) muses that:

> How do you put a mathematical or economic weight on ... developing a love for reading ... on valuing qualities like loyalty, self-control, and human affection? ... We have always known that the outcomes of education are difficult to quantify reliably, and that some of the most deeply valued things about education lie too deep for tears.

Moreover, there is debate on the extent to which the development of educational systems precedes the growth of an economic system (Archer, 1982).The position argued here is that the use of purely economic criteria for the evaluation of educational outcomes is a danger for the quality of education. In such an econo-political atmosphere worthwhile values can be sacrificed in favour of economic and political expedients. Furthermore, prescribing a high degree of economic rationality in such a pejorative sense fails to connect adequately with the reality of planning in higher education institutions, because critical comments are premised on the idea that universities are like factories which can be managed and improved by that kind of rationalities. Indeed, much of the collective effort of policy makers is currently aimed at making university reality conform to economic models. They then bemoan, as Wise

(1983) has noted, the fact that the universities fail to conform to the model. As one of the case study informants argues:

> In my opinion the university has two main functions: the production of knowledge and the consumption of knowledge. The first function is carried out by research and the second by instruction. Unfortunately in our country the first function of the university is often neglected. This is the transfer of ready knowledge which has great importance. Worse than this is that our economic specialists are viewing every thing -even education- from their visible and measurable benefit points. They criticise the universities for soaking up considerable amounts of national resources to produce graduates in fields unrelated to the labour market. We should use our limited resources to respond to the needs of society for manpower. They want, therefore, the universities to be passive users of their policies and plans. I am opposed to that point of view for two main reasons. Firstly, Islam conceives of life-long education as a basic right of mankind based on their own interests. Secondly, university is not a job centre. University should not think about graduates' jobs but rather their abilities and efficiencies. I think if the students acquired the necessary qualifications at the university they would not be unemployment. I always worry about the quality and efficiency. Investment in job creating activities is the function of other organisations. I believe that in planning for higher education we should take economic measures into account as a variable among many other social and cultural variables (HSS-2-95).

The ideology underlying this informant's position is strongly based on his religion. But from the economists' point of view it is based on the free enterprise logic of consumer choice and economic self interest. Because this informant pointed out:

> Entrance to the university is not easy in our country. The students should pass a difficult competitive national entrance examinations. In such circumstances they themselves must think about their fields of study which directly associated with their future jobs (HSS-2-95).

In a society like Iran, principles such as self-interest and individual mobility which are derived from the market economy are heavily weighted in favour of newly affluent groups who now experience an unusual amount of power and influence in a society which is characterised by deep economic, social and political inequalities. In these circumstances, any effort to defend universities as sites that have a fundamental

connection to the idea of human rights and social mobility is being systematically rejected (Giroux, 1985:58).

The experts of PBO argue on behalf of the government that PNU should move in the direction of the macro plan of the country and should be loyal to its aims. But the university argues that 'we should be loyal to all of the university's aims, not just one or two of them which are selected by PBO experts' (HSS-2-95).

The university considers itself as a social service institution that must pay due attention to the scientific, social and cultural development of the people in deprived areas. Providing higher education in the deprived areas of the country was a revolutionary idea, and in some sense a dream, which nobody believed could become true in the near future.

> It is the intention of the country's policy makers to use the potentiality of PNU to create higher education opportunities for people who lived in remote and deprived areas. Indeed PNU is now on the way of bringing this vision to reality (MRH-1-95).

Nevertheless, from the government point of view this university has been expanded without pro-rata increases in its resources, and so it has problems in ensuring its financial resources. PNU has tried to use the political powers of those MPs who are from the cities in which PNU has study centres to ensure its required budget. The Minister of Culture and Higher Education, in his speech in the Ghazvin seminar (October, 1995), made it clear that the government discussed the issue at the parliament and the parliament is now aware of and responsive to the government's problems, hence PNU cannot put the government under the pressure of parliament. For this reason:

> PNU is recommended to stop its rapid development. From the government point of view this university developed much faster than it had been determined in the first and second development plan of the country. Hence, the university must

keep its student numbers fixed at 120,000 but develop its study fields and programmes during the remaining years of second plan [i.e. 1999]. (MRH-1-95)

This recommendation supported the direction of the new policy of changing the existing study fields in favour of science and technology, and vocational training because:

> According to the statistics of PBO 70% of degree holders in arts and humanities are working in sections unrelated to their specialities or are unemployed. I have recently studied a report that chemical and agriculture engineers are not able to find appropriate jobs. (MRH-1-95).

PNU has, to date, ignored these recommendations and as mentioned earlier, increased its students' number up to 160,000 in 1996 - but the dilemma remains.

Theoretically speaking, the country's macro educational plan has followed a combination of the manpower and cost-benefit model while the university has followed the social demand or socio-cultural model in its micro planning.

It should be repeated again that the main justification for the existence of this distance education system is that it was set up to serve people living in remote and deprived areas who find it difficult, and often impossible to continue their education at conventional universities. It is argued, therefore, that it is imperative that this system gives an appropriate response to the demands of the target people and makes direct contact with its target audience. However, the recent growth can be seen to have created too much expectation among the people, and any inability of the university to satisfy these expectations will create political problems in itself. This is partly why the government now wants to stop PNU's rapid development. The Minister of MCHE emphasised this policy of the government in the Ghazvin seminar (October, 1995) by saying:

> I strongly recommend to PNU's managers to correct their policies, eliminate some of their study fields and replace them with new ones which the country

needs. Continuing the existing policy is impossible. I personally would not support the existing policy of the university at PBO and parliament.

Rumble (1986:154) points out, distance education systems are particularly vulnerable to external influences. PNU was lucky to have the great advantage of public opinion on its side compared with its predecessor, and hence it solved this political problem temporarily but it still has to fight to get the necessary resources. Changed priorities, however, now mean that PNU must change its own policy, and some formal academic programmes, in favour of increased vocational and professional training and the creation of new science and technology programmes.

PNU's planning is again based on institutional expediency, whereas strategic planning should be based on what West-Burnham (1994:80) calls a value-driven approach, which is founded on agreement and consensus. Micro level planning in a mega-university like PNU, which covers almost the whole country, must not be confused with macro planning at the national level. It is argued that the planners should always keep in their minds the fact that PNU is a state university and is still using a governmental budget. It needs, therefore, to establish harmony between its institutional interests and national interests. In other words, planning at PNU should be a three dimensional activity in which the influence of each of the dimensions must be synthesised to achieve realistic and implementable results (see figure 6.3).

This diagram is designed to help clarify the complexity of planning in this mega-university with a nation-wide student body in Iran. Both institutional (micro) and national (macro) policy are themselves complex. Each can be seen as made up of three interfacing factors.

Figure 6.3 The Dynamics of Flexible planning Required in a Mega-university

(Balance of Forces)

Long-term planning
(strategic plan)

Mid-term planning
(operational plan)

short-term planning
(annual budget)

Institutional mission

Industrial theory

University's micro-policy

Academic issues

Islamic ideology

Political issues

National macro-policy

Socio-economic issues
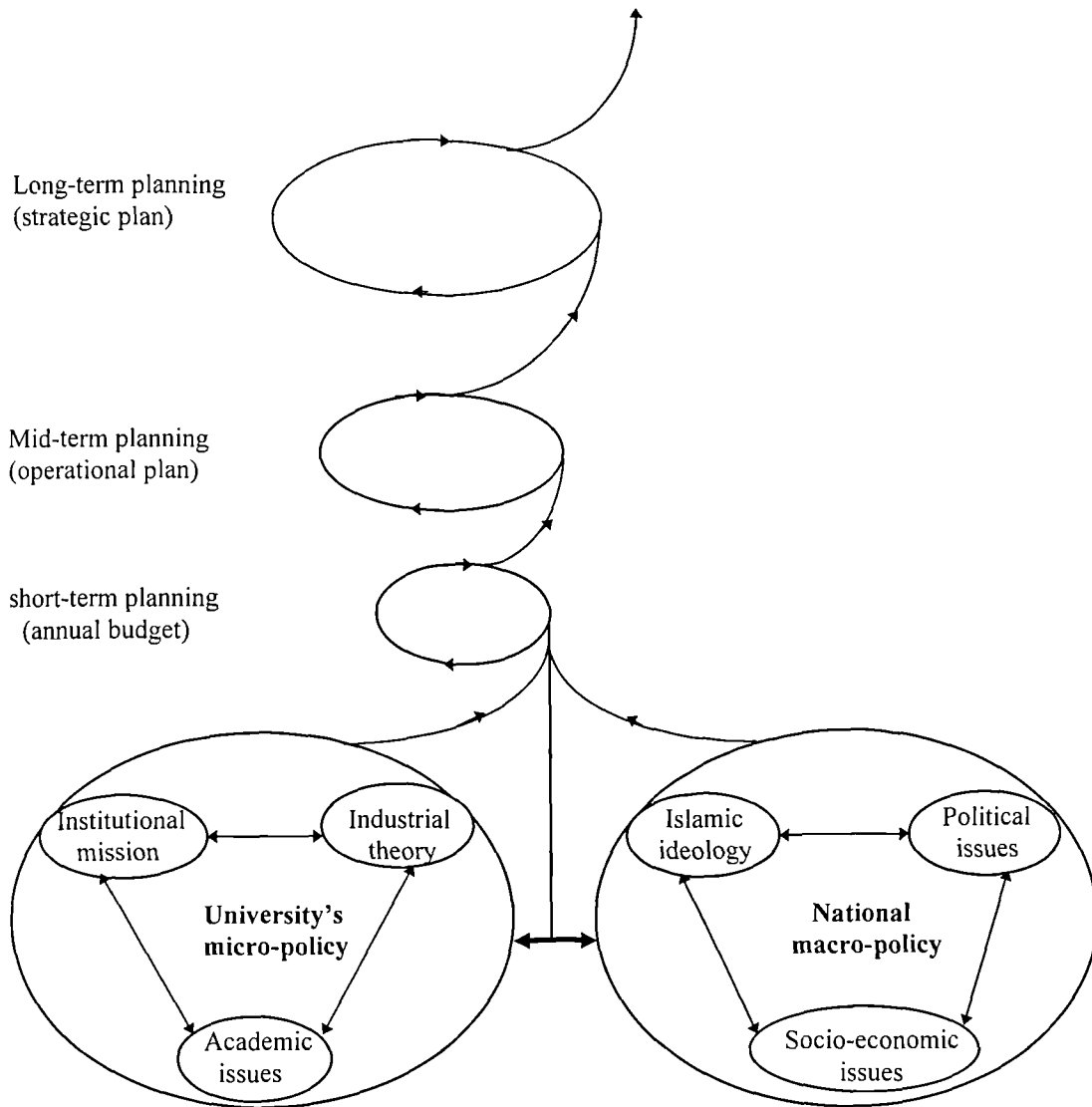
The two schemes interact to produce a complex balance of factors which change through time. In the long term as the case study has illustrated, the force of national policy factors tends to be more influential than those factors within the universities. Making a balance between the two levels of policy and taking into consideration

pedagogical issues as well as institutional values, managerial issues is quite complex. Synthesising them into formulating ideas and the translation of these formulated ideas to a practical and, flexible short, mid and long-term plan is an even more complex process. Moving from the level of idea to the level of people (Hodgkinson, 1991) (i.e. execution of the plan), institutional governance, operational flexibility and industrial dynamism are still greater issues to the managers of mega-universities. Daniel (1995:16) argues that:

> ... close involvement with national policy may constrain the development options of the mega-universities. On the other hand, it may give the institutions greater opportunities than most universities enjoy to influence government policy on a range of issues.

This mutual influence should be taken into account in the planning and management of these universities. The problem for PNU's managers was to bridge the implementation gap between national macro-policy and university's micro-policy in its planning processes, as systematically illustrated in figure 6.3. If they do so they will reduce the tensions between headquarters and line managers on one hand, and between the university and government on the other hand.

The analysis of the minutes of meetings of Boards of Trustees and University Council indicate that PNU's managers simplified the process and applied a bureaucratic approach in the planning process. They planned with long horizons but operate with short horizons. This was clearly problematic. Short-time frames in planning, in principle, must be flexible to be responsive to the changing of both external and internal circumstances. At PNU there is a rapid reaction to internal changes as this informant explained.

> In any manner, we can control and modify the internal elements in response to the new policy of the university and we had done so hitherto. For example we modified our course production line and production planning very fast to improve the quality of education in the university but rapid and right respond to

external changes was too difficult. We planned based on our policy and priorities at the university in the light of national policy but this plan had to meet the approval of the PBO and then the parliament in the frame of national higher education planning which is in turn in the frame of national development planning. Therefore, it is natural that there should be some conflicts and contradictions between the three levels of planning. If these external agents could understand our circumstances we would have no problem in internal changes (HSS-2-95).

This widely held view indicates that PNU has the expectation that the macro policy should be harmonised with the university's policy. Such an accommodation is very difficult if not impossible to achieve, even if micro planning has been well thought out. Institutional planning is normally influenced by the national policy not vice versa. However, increasing institutional autonomy increases the scope for micro planning. As one informant comments:

As long as PNU uses the government budget, it has to follow the government policy. If it became self-sufficient it could follow its own bearing in mind that it is a state university and it may have to modify its plans in response to national circumstances (MRH-1-95).

Yet, only the flexibility of the university's plan in response to the macro policy of higher education and effects to improve quality will ensure continuing support and investment. The findings of this study indicate that even at a time of scarcity PNU was able to react rapidly to the sudden change of environment (e.g. by creating new programmes of study and making drastic reductions in its expenditure without noticeable reductions in the quality of its services). Nevertheless, where implementation processes are predominantly 'top-down' we must be mindful of the political context within which such changes are promoted.

The tension between the national and institutional policy formulation processes has been the theme of this section. We now consider the processes whereby these policies

were implemented. Models of educational management reviewed in Chapter Three will be applied to these processes in an attempt to unravel their complexity.

Management Process

Background

Before the revolution the management of higher education institutions was -like other institutions- based on a rigid top-down bureaucratic model in which authority was conferred from the first ring (usually the Shah or his representative) of a recognisable chain of authority. Regulations and procedures were predetermined and roles clearly specified. It was rarely possible to find any autonomous managers in a university or any departments of a university. This rigid hierarchical structure of universities was demolished after the revolution. The students who had played a crucial role in the victory of the revolution considered themselves more eligible to control the universities and fit to appoint the managers in a so-called democratic way, which created a perplexing situation for academic and non-academic staff. The lack of democratic experience in the country and the predominant feeling of freedom led the universities towards disorganised anarchy and chaos, which gradually became reformulated. Broadly speaking, after the revolution there were three distinct phases in the management of Iranian universities:

1. *The practice of democratic management (1979-81).* This phase can be characterised by the participation of the students in the decision making process, the creation of councils and committees in which all members, including representatives of academics and non-academic staff and students with equal voting rights, concentrated on securing certain minimal conditions for organisational survival and flexibility. The councils and committees were strongly

dominated by different ideo-political groups and there were no strong central authorities to set up the goals and control the current procedures.

2. *Movement towards a hierarchical model with amalgamation of democratic approaches (1981-88).* This phase can be characterised by the establishment of a new institution in universities for the first time, namely Jihad of the University (in Islamic culture 'Jihad' means holy war but in this sense it means fighting against non-Islamic values in the universities), which is involved mostly in policy making and likely decision making processes, and the Islamic Association of Students which is involved in decision making and sometimes in the policy making process at the universities. These two institutions still exist at the university level.

3. *A tendency towards the reduction of the participation of the Jihad and Islamic Association in policy and decision making processes; and the conferring of more authority on the universities to make them more independent (1989 to date).* These deliberations were in fact a remarkable change in the management of the universities after the revolution in Iran (PBO, 1992).

Sayyari (1994:28) portrays the management of the universities in Iran:

In the first decade of revolution, universities in Iran did not have a stable management process and most of the managers were experiencing management capacity for the first time. They were therefore working on the basis of a trial and error approach. This sort of management was very expensive and vulnerable. The pre-assumption which was, unfortunately, accepted was that since they are specialists and followers of the Islamic ideology then, they are best managers ... Plurality of policy and decision making agents, the incongruence of authorities and devices with the missions and responsibilities, and the ambiguity of the area of responsibilities and the participation range of political or interest groups in the administration of the universities made it difficult for anybody who intended to carry out any particular plan.

At present, the general context of the management process in Iran in almost every institution and at every level is dominated by political purposes. If one makes his/her

· decisions in the light of the political main-stream one is considered as a good manager or at least he/she is not faced with any objection from external powers. One has inevitably to follow the ideological and political direction of the government without such acquiescence one can not be considered as a successful manager. In most cases receipt of the needed financial resources is dependent upon this conformity to political direction.

> The existence of evident or hidden political relationships can be promoters and facilitators of the allocation of budget and the approval of the plans (Sayyari, 1994:31).

It is naive to think that politics would not play a central role in decision making, but these tendencies, as Paul (1990:117) points out, should be modified by the central values from within the institution which purport to drive the institution.

From the above, it can be seen that management of higher education institutions throughout Iran will have similar administrative features. Thus PNU inevitably faces many of the same managerial problems as conventional institutions. There are, however, many differences between PNU and other universities in the nature of the tasks as that are to be actually performed. Clearly PNU as a distance education system exhibits a range of features not found in conventional universities which make its management qualitatively different (see table 5.5). Even so it is very much influenced by the conventional practice of management in higher education in the country.

Management at PNU: The Test of Various Models

As mentioned in Chapter Three, most of the literature about educational management is related to educational management in general and less to distance education. Moreover, this literature is rich in its implications for small-scale organisations. Not all this literature is useful in analysing the dynamics and relationships between

organisations and their environments. The implications are particularly complicated in this study which concentrates on a very large-scale distance education university that achieved the rank of a mega-university (Daniel, 1995) when its student body exceeded 100,000 in 1995. Its size and context requires careful application of generic models. The analysis, therefore, is made on the basis of insights which have been derived from a selection of models of educational management (Bush, 1994).

Many models of educational management assume that the main elements of decision making in an institution are internal. But the prime impetus of PNU's operation has largely come from external factors and, as discussed earlier, massive changes occurred under external pressures. The responses of PNU to these external pressures and their influences on the decision making process created many problems. As the findings of this study reveal, these responses to these problems were not proactive and rationally planned. Consequently, heavy political conflicts emerged as the university attempted to find a rational way to establish a balance between outside political pressures and institutional interests.

The problem for the Chancellors of PNU contrasted sharply with those of the first Vice-chancellor of the UK Open University. If the first Vice-chancellor of the Open University had problems with democracy in the implementation of policies that were otherwise democratically formulated, he had at least a freedom to listen to everyone and ultimately make up his mind and take his own decision (Perry, 1987:215). But the higher education environment and circumstances in Iran did not allow the three previous Chancellors of PNU to use their own managerial power. They have often, in varying ways, been challenged to attempt to run the university in accordance with their own personal experiences and institutional values as opposed to external factors.

The conflict between government and university policies has at times resulted in an unsatisfactory situation for both sides. During the interviews for the present study it became clear that there were significant differences in attitudes and approaches between the managers of the PNU in relating to these circumstances. These differences arise from the highly politicised environment. One of the key informants, for example, believes that decisions should be made consultatively.

> It is for this reason that we have many councils and committees at the university. The councils of academic, research and scholarship, student affairs, financial and administrative affairs, and above all the university council are the best means of policy and decision making for the university. (HSS-2-95).

But another informant believes that participation in these councils and committees is in a sense a waste of time.

> I do not have so much time to spend in meetings, which are just talking places. You can not make a proper decision in such committees. Although I am always seeking for good advice I am essentially pragmatic. Managers should know their responsibilities and get on with them. I know some of my colleagues accuse me of being a dictator but I think my approach is fairly accurate and works well. (DMB-3-95).

Another argues that working in a predominantly political environment mostly brings about frustration.

> We have institutional rules but we are operating with some kind of hidden rules. These are not properly written down and changes take place through external interference (MHP-10-95).

This point of view has an affinity with those exhibited by principals of study centres as mentioned earlier (see p.263). As well as the hidden rules which were asserted by this informant, I observed that there was a hidden organisational structure besides the approved organisational chart. In order to confirm this observation I put the matter up for discussion with another informant. In confirming this he explained the reason:

> Certainly there are some sort of organisational relations which are working well but they are not anticipated in the formal organisation of the university. They have been created based on organisational needs and necessities. Actually, the

existing organisation has some defects in its accordance with the industrial feature of the university. So, it is compensated by an informal or in your words hidden organisation which we hope will meet the approval of related authorities in the future revision of PNU's organisational structure (SAM-4-95).

Observation of the internal activities of managers and meetings showed that this ambiguous and unstable situation was also partly the result of both the rapid expansion of the university and the over-reaction of the government (sudden budget cut). These issues are understood by top managers but remain confusing for the middle level managers. Hence, their behaviour and contributions seemed to be rather different from those displayed at the Ghazvin seminar and other meetings which I participated in. It is argued that these differences in behaviour will remain until they become aware of these issues. Line managers had felt excluded from the process and had no real sense of ownership of the plans emerging from the senior managers at headquarters. They want to be responsive to the students' perceived needs as front line managers. This is the characteristic of a large, complex, multipurpose, rapidly expanding and changing university.

Participation Process

In an attempt to overcome the above mentioned problems, the Vice-chancellors of the university arranged a committee with principals and line managers at the seminar- in which I was participant observer- to adjust the existing five years plan for the university and prepare a short-term annual operating plan. The dialogue in this committee helped both sides to reduce the ambiguities and consequently the tensions by clarifying in greater detail the goals, roles and functions of the study centres. However, it was evident after the seminar that the principals of the study centres were still uncertain that the decisions made in this committee would be carried.

Consideration of the minutes of meetings of the University Council indicated there was a consensus among Council members on the planning process based on policies which were mainly made by the former chancellor of the university. There was also an intention to invite the heads of departments and the principals of the study centres to participate in the planning process and to discover their preferences by sending them a questionnaire. But at that time it was believed by the principals of the study centres that a small group of top managers made critical decisions at headquarters. As one informant put it:

> We were asked to give our preferences, not to give our approval. I cannot say we were actually consulted about the plan which we were going to implement (AHA-7-95).

These consultations by questionnaire were, in fact, what Wallace and McMahon (1994) refer to as 'bounded consultation' within which they were asked to give their opinions and preferences about student enrolment and the needs of the study centres for the development plan of the university. Almost all of the chancellors' policies and suggestions for planning were, however, approved with only very small changes or editorial amendments. The perception of the study centres principals was that their opinions were only partially taken into account. I put these findings up for discussion with two influential academic staff. They argued that the reason was clear: the chancellor is the representative of the government and the overall impression of the council members is that he is aware of government policy. In reality this was not accurate and, indeed, in 1994 the chancellor was obliged to resign because of the conflict between his policy and government policy with regard to the university's future. He thus writes, in his resignation letter, to the Minister of Culture and Higher Education

> I would like to make these points clear that:

1. the main goal of this university is 'Promoting cultural and scientific qualifications in the society by offering a chance to people who do not have access to traditional universities for any reason;
2. it is the mission of the government to provide the possibilities of higher and continuing education for everybody who is interested in or needs it;
3. the expansion of this system is vital to address that goal and mission, and planning for this does not merely mean providing alternatives to unemployment. Higher education is not limited to the satisfying the labour market or to providing only for the present needs of society. We should not neglect the ideal goals. In other words the development of distance education must not follow the short term economic and manpower policy of the government (Newsletter of PNU, 1994).

This resignation enhanced the influence of external politics on PNU's organisational culture which in turn increased the ambiguity of approach and uncertainty at many levels of university's hierarchy. Managers understood that there had been a serious value conflict which led to political differences over the policy employed in managing the university.

It is evident from the above value conflict that the predominant managerial culture of the university was competitive and political showing some signs of organised anarchy (Cohen and March, 1974). The coming of the new chancellor onto the scene brought about new ambiguities. In the ceremony introducing him, the Minister of Culture and Higher Education announced that he had come to implement the new policy at the PNU (Newsletter, 1994). But the organisational structure of PNU had already been shaped and any attempt to develop and implement reform policy was a more complex and difficult task. Observations during fieldwork confirmed that as a newcomer he was mostly collegial in his behaviour. Most major decisions were made in university council and academic committees. Heads of department and other academic members, felt increasingly involved. This kind of decision making is appropriate for solving common or academic problems when time has no significant importance. However, when time is of the essence, when we refer back to the industrial features of the

university and when quick decisions are necessary, many would argue that collegial decision-making is not very effective (Paul, 1990).

When the two functions of the university (academic and industrial) are taken into account, it is clear that the connection between these two functions is very difficult. Academic decision-making appears to be best served by a collegial approach, whereas the industrial function is better served by a bureaucratic, line management approach. In order to managing the complexity of a mega-university, some balance must be found between these two approaches. Most managers, as they explained in their interviews, find themselves in a changing situation, where conflict of values and purposes occur and issues interfere or interact with each other.

The complexity, uncertainty, instability and uniqueness of PNU have made it necessary for leaders and policy makers as well as practitioners to be particularly thoughtful and in some sense artful, in dealing with this university's procedures and problems. The implementation of a compulsory thrift policy had already provided conflicting priorities. Whose definitions of needs and priorities should determine the direction and level of funding? Usually, these priorities appear in the bill of budget of PNU which is prepared by BOB (see figure 5.3). BOB collects its data from all sections and departments of the university. It also collects information relating to their needs and priorities, but finally it is this bureau that uses these data for distinguishing and determining the priorities. Faculties, academics and, in general, all instructional practitioners have always complained of the procedure.

> In fact, it is the financial managers of the university who determine the priorities and actually control the course production process and thereby the teaching-learning process. They have established an administrative sovereignty (DMB-3-95).

This kind of interventions between organisational tasks ends often to the distortion of the link between organisational activities and the learning activities of students (see figure 3.4). The observation of the decision making process confirmed the points which had already been made evident during interviews and document analysis. There is, indeed, a competitive and political model dominant in the policy making process and planning, and a bureaucratic and hierarchical model in the implementation and decision making process. There is also a clear tendency to make use of the collegial model by the new chancellor of the university to take a positive and leading role in planning developments but this is not welcomed by the line managers. They fear an erosion by collegial processes of their bureaucratic power. The management process of the university is also overshadowed by ambiguity when the external influences are strong and become evident when implementation matters are discussed at management meetings (minutes of meetings of the Co-ordination Committee of Managers, sessions 1, 2, 3 and 5).

The necessity of an effective bureaucracy for handling the production processes of the university on the one hand, and seeing this model as a battle ground for academic procedures and the personal ideals of academic members on the other hand, has always been a potential area for conflict in the management of distance education universities among them PNU. This is even more difficult to tackle if we add the political and value conflicts to the situation. One informant believes that:

> The chancellor of the university as the representative of the government must be sensitive to the political context and create an acceptable balance between its institutional interests and the political expectations of the government (HSS-2-95).

Another informant argues:

> The expectations of the government are often coloured by ideological issues. The government expects that the whole educational system in the country must

operate based on the Islamic ideology. Not only has this ideology not been clearly defined but also its conformity with educational management is obscure. (SAM-4-95)

According to Hodgkinson (1991), administration is, in fact, philosophy in action. When the managers are not clear about the philosophy, and in our case ideology, how will they be able to translate it into a plan and then sell it to those who must realise the plan? Unfortunately, there is not any operational background for this and all attempts are tentative and based on trial-error. There is clearly a gap between the previous knowledge and experience of managers and the present ideological and political environment of PNU. Furthermore, the lack of explicit definition or explanation for these ideo-political factors which have affected the managerial processes of universities through the agency of politicians has increased the ambiguity and uncertainty in policy making and its implementation. One of the previous managers of PNU thus explained that:

> Most managers at the different levels of policy and decision making at the university have failed to recognise these ideo-political trends and/or have ignored them. This has happened not only at PNU but also at the majority of universities in the country. Hence at present there is real tension between universities and the government's policy makers (DAL-12-95).

The harsh criticism of the spiritual leader of Iran and his severe order for more Islamisation of the universities in his meeting with the Minster of Culture and Higher Education along with the Chancellors of universities (Ettela'at, 6th June, 1996) is a sign of the existence of this tension. As a result the implementation of macro policy at PNU has been tinged with ideo-political naivity. A university like PNU which has a nation-wide function should be sensitive to public opinion, otherwise it would fail in its mission.

Conclusion

The function of distance education institutions is different and more complex than that of most conventional institutions and there is an interrelationship between, for instance, logistics, organisation, costs and pedagogical issues. This means that we need to analyse the distance education system as a special organisation and that various theories of management and organisation are needed to understand the nature and importance of the various functions of distance education. The PNU can be properly viewed as an unparalleled organisation among the other traditional higher education institutions in the country. It is an industrial organisation in terms of mass production of study materials and the industrialisation of the teaching-learning process. It is at the same time an educational organisation because its main actors are teachers, curriculum developers, instructional designers, course writers and so on, who are often working in a team and are in direct and/or indirect contact with students. Hence, there is no single overarching theory for the analysis and explanation of the management processes of such a university (see Chap. 3 p. 95). Instead, as outlined, in figure 6.3 is the balance of forces both internal and external which characterise the planning and management of this complex mega-university. A central theme in the analysis of the case study has been the interplay between the macro policy and micro policy environments. The force of Iran's particular national ideology and political system has been instrumental in creating ambiguity and uncertainty in the planning and management of PNU. In addition, the expected internal conflict of values and priorities between the academic and industrial functions has been documented.

In the real life of the university each of the four managerial models from Bush (1994) - bureaucratic, collegial, political and ambiguity - has its own contribution to make to a fuller and deeper understanding of the administration of the distance education system in general and mega-universities in particular. This research has made it clear that in PNU as a mega-university, most managers are interested primarily in better handling of current affairs and making a better future for their institution. They are not driven by any single management theory. For example, Ljoså as the head of another distance education institution, takes these issues into account and declares that:

> I am interested in the optimal operation of the system, in the people involved in running it, in financing and cost effectiveness, in its external contacts and alliances, in its visions for the future and its development in order to serve future students. Ljoså (1993:181),

Alternatively, one of the informants of this research comments on this issue by stating that:

> When I want to make a decision I consider the situation and the nature of the problem. Sometimes I make it very quickly just based on my previous experience. I do not care about internal or external reactions. Some other times I spend perhaps more than one month on an issue to get a consensus. Sometimes the reports come to me in such a way that the decision has already been made and only needs my confirmation. We are working as a part of an industrial system and I think every decision is made in its related area of responsibility (DMB-3-95).

The point of view of this informant is linked to elements of each model. More than most informants, he was aware of the contingent nature of decision-making. Whether one adopts a bureaucratic or collegial approach to policy making and implementation depends on the situation. Hoyle (1986:108) summarises the contingency theory of leadership as follows:

> the effective leader takes into account four sets of forces when deciding what actions to take. These are: forces in the leader, forces in subordinates, forces in the situation (e.g. type of organisation, the nature of the task and the availability of time) and forces in the environment.

From the data analysed, there is little doubt that these four forces were active during the evolution of PNU as a mega-university. The macro policy environment contributed to the ambiguity and political imperatives with which PNU's managers had to struggle. The differential nature of the tasks of manufacturing the programmes and the tasks of education led to the application of, and conflict between, bureaucratic and collegial approaches to decision making. Ultimately, as the resignation of one Chancellor illustrated, the force of the environment was greater than that of any individual leader.

The complex interplay of forces and the problem of balancing their impact makes it difficult to see a simple pattern in the development of universities. However, as is often the case in the evolution of organisations, the earlier stages of ambiguity and political tension gradually moved through a quasi-collegial environment of middle managers and study centres principals into the present predominantly bureaucratic approach. The tension between the conflicting forces can never be fully eradicated.

The particular nature of a mega-university with its large scale industrialisation of production and teaching-learning process almost necessarily requires the primacy of the bureaucratic approach to planning and management. Nevertheless, it is worth reiterating Paul's (1990:188) words again when he states that 'the success of open universities depends on leadership ... and integrity without rigidity'. Flexible and contingent planning and management are also needed if forces are to be balanced in the policy making and implementation process. The framework of Hodgkinson, with its emphasis on leadership as 'philosophy into action' and the interpretive power of Bush's bureaucratic, collegial, political and ambiguity theories of management seem

appropriate in illuminating the complex and rapid evolution of this particular mega-university.

In the final chapter consideration is given to what PNU can do to improve its own planning and management process and what others can learn from the experience and from the research conducted here.

CHAPTER SEVEN

Conclusion: Cultural Context, Mega-universities and Industrial Theory

Introduction

In this concluding chapter the major themes and issues that emerged from the fieldwork are reconsidered with reference to the analytical frameworks and concepts derived from the two main bodies of theoretical literature reviewed in Chapters Two and Three.

Iran: The Context for Distance Education

At the broadest level the case study of the mega-university of PNU in Iran demonstrate the importance of external socio-political factors when seeking to understand the policies, management and educational strategies, theories and models adopted.

Socio-political Issues and Priorities

The main target of the first and second Iranian development plan after the revolution was structural change in the cultural, social, economic and political realms (PBO, 1988 and 1994). The conversion of the previous unjust ethos of development to one more characterised by justice for the majority of deprived people has required the conscious participation of the nation as a whole in the process of development. Iranian development, therefore, starts with people, their education and their potential. People

are the primary and ultimate focus of all development plans both as contributors and beneficiaries (Sharma, 1986).

During the last two decades primary and secondary education has expanded at a much faster rate than tertiary education in Iran. Prior to the creation of PNU the conventional higher education system provided only limited opportunities for deprived and other disadvantaged groups.

This case study demonstrates that PNU was set up under conditions in which Iranian higher education was suffering from a shortage of both financial resources and academic staff. The frustration of hundreds of thousands of young people and adults who could not pass the national entrance examination (the only gateway to higher education in Iran), and those who found themselves barred from higher education, led to a public outcry in the Iranian press for increased opportunities in higher education. Hence, the Supreme Council of the Cultural Revolution (SCCR) (the only high level policy and decision maker in educational and cultural affairs in the country) approved the establishment of a new distance education university. This was to provide opportunities for all those who were competent enough but were prevented from pursuing regular academic studies.

In addition to these reasons, there was a growing awareness on the part of educationists, policy makers and planners, of the potential cost-effectiveness and practicability of distance education to provide more equitable educational opportunities for men and women, particularly in the remote and deprived areas of the country. The ever increasing demand for primary and secondary education had also outstripped the supply of trained teachers and untrained, unqualified and under-qualified teachers had been put into service, particularly in rural and remote urban

areas. Distance education was thus seen as a way of providing affordable in-service training for teachers on a large scale, by the optimal use of available resources, existing physical facilities and academic staff time.

It can be concluded that the emergence of distance education in the country was due not so much to its openness and capability to overcome the limitations of time and space but mostly to its low unit cost, ready accessibility (Walker, 1993) and potential for reducing the political pressure of the hundreds of thousands of young people who were eager for higher education.

Prospects for Distance Education

The establishment of PNU was faced with initial political and educational opposition. The political opponents remembered the experience of the FUI and the political stance of its academics. In addition, many did not believe in the efficiency of distance learning methods and did not think it advisable to invest national capital in this system. PNU's educational opponents had other reasons. As well as challenging the quality of this system they held to a traditional pedagogical point of view regarding education. Many could not accept that education could be delivered effectively outside conventional classes or lecture rooms. Reflecting this, for example, PNU received a harshly critical letter from one professor in one of the oldest universities of the country. This was in response to an invitation for collaboration which had been sent to all universities throughout the country. In this letter he emphasised that:

> We are still suffering from the wounds of FUI in our higher education body. We have not forgotten the undervaluing of our university education by FUI yet, now we are witnessing a re-establishment of that university under the new name by its previous practitioners (January 1988).

It was not only external critics that were trying to defend conventional methods of education but also some of PNU's new academic staff were and remain, unconsciously

. followers of conventional approaches. For example, the tutor of Persian language and literature in the Ardekan Study Centre in an article titled 'Four Years Effort of Persian Literature Department', writes:

> On the study centre's own initiative, face-to-face conventional classes are organised for all programmes of study on all days of the week instead of limited number of weekend tutorial sessions. With this initiative the students of this study centre felt they are really students because they are participating in traditional classes and learning how systematic university education is. These attempts removed the thought of distance education and autonomous learning from the brains of the students and they understand the meaning of higher education (Jalali, 1992: 12).

The authorities of the university stopped them from pursuing this but it is obvious from this example how difficult it is for such kinds of thought to be eliminated.

The nature of distance education has never been regarded as a serious problem by the PNU's pioneer managers. A strong leadership team and diplomatic management played an important role in creating early confidence and stability. The political and financial support of the Prime Minister of Iran (Mr. Moosavi) of that time also played a basic part in the establishment of PNU's fundamental programmes. It is worth reiterating that the Prime Minister donated four million US dollars to PNU for its capital expenses in 1988. In 1990, that is only three years after setting up, PNU then enrolled more students than any other state university in the country, and it reached mega-university scale (Daniel, 1995) only seven years after its establishment. In this manner PNU became a pioneer in removing traditional barriers to the development of higher education in Iran. It is in many ways a radical - compared to other universities in the country - and innovative structure based on a new degree organisation, credit points, new categories of academic staff and new tasks for professors and lecturers.

Over the past ten years, there has thus been increased interest and participation in distance education in Iran. This study demonstrates that this is attributable to social

changes as well as to the increased acceptance of the quality of this mode of education. The increased esteem for distance education is related, at least partly, to the greater sophistication of systems that allow increased flexibility of the time and place of learning when supported by the effective use of study materials and new technologies. Generally speaking, this study demonstrates that distance educators have a greater tendency to adopt new methods of teaching than do conventional educators. In this sense PNU has moved forward at a faster pace than mainstream education in the country. However, the changes in methodology and advances in learning materials are now being utilised by some academics in conventional universities, with the result that distance education and conventional universities are drawing closer together in Iran. These two systems now have converged to a point where they exchange students and understand each other better. Such integration will be especially significant in terms of materials design and student learning activities.

According to the second Iranian development plan (1994-99) substantial growth in the percentage of the work force employed in the service industries of education, health and community services, finance, construction, business services, manufacturing, agriculture, forestry and fishing is expected (PBO, 1992). Education and training requirements in expanding areas will be enormous compared with the last decade. Without a massive increase in capital and recurrent expenses it is doubtful whether mainstream education will be able to respond rapidly enough to meet these needs. More and more people who are already in employment are also finding that advances in technology are so fast that they cannot acquire appropriate skills through on the job experience. These people need to be able to upgrade their skills without leaving their job and going back to full-time campus-based education. Night time campus-based

study is another alternative, now offered extensively by conventional universities but many find distance education more appropriate and more convenient. Major reasons for such support identified in the present study consist of:

1. The need to upgrade qualifications, while retaining employment, in response to social, economic and technological changes in a country recovering from eight years of war.

2. The convenience and flexibility of distance education as opposed to campus-based and evening study.

3. The changing status of women in Iranian society that have added to the growth of tertiary education in general and distance education in particular. In 1995 women comprised about 39% of PNU students but only about 26.8% of the campus-based students were women. Distance education allows them to study without undue disruption to family commitments.

4. The application of the same curriculum, the same academic semester system and the same unit credit system as conventional universities.

5. Improved social respectability of distance education and of PNU because of the remarkable success of its graduates in national entrance examinations for post graduate studies offered by conventional universities.

Payame Noor University (The Message of Light): The Industrial Model in Practice

In the Islamic culture knowledge is considered as a light which helps its owners to find the best way of life. The only distance education university in Iran sends this message throughout the country. The main aim of PNU is 'higher education for everyone, everywhere, at anytime'. This characterises its main mission which was

. discussed in Chapter 5. Here we reflect upon what the case study reveals and what has been achieved, with reference to the theoretical literature reviewed earlier.

Characteristics and Impact

PNU as a Mega-university

PNU was established in 1987. Thus, from an historical perspective it originated when western nations were pioneering what many now call the third generation of distance education (see Chapter Two pp. 26-27). PNU nevertheless reflects the second generation models by applying a rigorous pacing system and other large scale, mass production methods. Study materials are centrally distributed according to time tables set by the various departments, and work schedules are not related to the progress or wishes of individual students. Students are expected to submit pre-specified assignments during the semester in predetermined periods only and they must sit the supervised final examination on the appointed date. The tutorials and face-to-face sessions are held at study centres on weekends only but tutorials and counselling sessions are available during the week. As noted above, these characteristics best represent a second generation distance education system. Notwithstanding the fact that PNU has *succeeded in introducing a systematic and centralised* distance education system leading to degree qualification; it does exhibit a few specifications of modern third generation distance education organisations. These include course flexibility and students interchange with conventional universities; but PNU would have a long way to go to represent the third generation and to benefit from its advantages of individualised study based on openness and effective didactic two-way communication that allows each student a high degree of autonomy. The present characteristics of PNU are therefore more suited to a centralised, mass industrial

culture and the organisation is more like the German Fernuniversitat (see Holmberg, 1989). Such an industrial model is, however, most appropriate for contemporary Iran where uniformity and centralised decision making are favoured.

Organisational Structure

The organisational structure of PNU (appendix 4), its administrational features, functions and its overall taxonomy indicate that it has many characteristics of the systems model of distance education (figure 3.2). It is an industrial institution and there are clearly distinguished student services and study material production sub-systems which are administrated through the two different Vice-chancellor Offices. The university was primarily established as a purveyor of mass higher education for those who live in deprived and remote areas. In practice it has incorporated many new students into one large institution to receive study materials and supporting services. The students are largely passive recipients of what the university provides for them. They have only limited freedom to choose specific courses from a range on offer. The students' activities depend entirely upon the administrative policy and function of the university (see Chapter 5), and, as Rumble (1986:28) remarks, distance education systems with these objectives and characteristics are more likely to be institution-centred.

Large scale distance education and Mega-universities require special organisational structures (Rumble and Keegan, 1982; Rumble, 1986; Daniel, 1995). In the case of PNU, however, the original organisational pattern proposed was formulated in the light of national fixed rules and conventional framework by experts from the Organisation of Administrative Affairs and Employment (OAAE). The OAAE made many changes in the proposed organisational structure of PNU which was submitted

for final approval. They believe that this structure should conform to the national regulations and organisational standards for other public institutions. They therefore approved an organisational structure for PNU which did not have much conformity with its dual characteristics. This reflects a pyramid form in which most executive powers are concentrated at headquarters (see appendix 4). In practice the swift increase in the number of students, programmes and fields of study, and regional and local study centres made the continuous supervision and monitoring of the academic and administrative processes through headquarters more problematic. This resulted in few clear and systematic organisational relations between regional and local study centres and the central organisation of the university. Hence, the monitoring of organisational relations, reporting levels and the domain of supervision remains complicated and difficult to operate. There are, therefore, some informal, but influential chains of organisational relationships that have been created of necessity for effective practice. Moreover, an understanding of these issues is important for any further analysis and planning.

Cost-effectiveness

One of the most significant factors in making the decision to establish PNU was the fact that the unit cost of this mode of higher education was perceived to be lower than that in conventional higher education. The cost-effectiveness of this system is indebted to an industrial structure which has been applied to both material production and teaching-learning processes. According to this case study, at present PNU is operating at about one-third of the unit cost per student for conventional universities in Iran. Originally the government set a ratio of one full-time academic staff member to 38 students for PNU, as compared to one to 15 in conventional universities. With

the PNU ratio now at one to 134, the economies of scale are larger than anticipated. Not surprisingly the basic question underlying the strategies that PNU has adopted for admission policy is how to maximise economies of scale in this mega-university. Unlike other Iranian universities PNU now derives a substantial proportion of its revenue in the form of the student fees which are set by the university.

Growth and Management

All of the key managers of PNU who were present at its setting up knew each other and were familiar with its fundamental law and legal status, mission and policies. Furthermore, the original operational scale of the university was not too large. It was working on the basis of the step-by-step development policy outlined in Chapter Six. Hence, initial planning for operations and decision making was not too problematic. In 1990 when the university renounced its step-by-step policy in favour of rapid expansion, however, the managers found it more difficult to control the situation.

The political motives which led to the establishment of PNU became an even more influential factor in the process of rapid development.

The rapid expansion and the impetus towards mega-university status was probably partly based on capitalistic ideas that suggest that only the strongest and largest organisations survive irrespective of the quality of the services (as an internal motive), and partly upon political pressure from the government (as an external factor). The need for large scale investment for rapid expansion ensured the strong control of the state and a relationship between the government and university which brought about the many problems and conflicts discussed in Chapter Six. Conflict arose when the university, understandably, resisted attempts to fit it into the country's conventional higher education system and the government insisted on its compatibility with a

. national policy originally initiated for conventional higher education systems. This conflict led to a temporary financial crisis, following cuts in government funding, and this demonstrated how political factors play a crucial role in the provision of distance education. Moreover, politically motivated projects are more likely to be vulnerable to external influences and political changes (Baldridge, 1971 and Rumble 1986). The use of a power-coercive (Chin and Benne, 1969) tactic by the government to force PNU to follow its policy is an example of this sort of vulnerability. A similar situation may have led to the failure of some other institutions, but in the case of the PNU this did not happen. One of the main reasons for this was the relatively strong leadership of at least two of the Chancellors of PNU who had a good relationship with influential politicians. They also used up much of their personal credit in establishing a balance between external and internal pressures. The use of personal credit and relationship, it is argued, is not always likely to meet with success but, as the findings of this research indicate, personal credit and connections with influential politicians can play a crucial role in the success of managers in Iran (see also Sayyari, 1994:31). Secondly, the early leaders of PNU had public opinion on their side and were supported by those MPs who were from the cities in which PNU had study centres. This experience further highlights Rumble's (1986:61) comment about the crucial importance of political factors and leadership in large scale distance education systems.

Mega-universities: Problems and Potential, Learning from the Iranian Experience

A case study examines the issues relating to ordinary practice in a single real-life case. It is, therefore, difficult to generalise from one case study without risk (Denzin and Lincoln, 1994:239). Nevertheless, reviewing the problems and potential of the mega-university of PNU suggests that, if the similarities of mega-universities are taken into

account, there are some broader lessons to be learnt from its experience. These lessons may contribute to current thinking on distance education and its planning and management in both the national and wider international areas.

When PNU gave up its slow development strategy it faced serious problems. Rapid expansion needed rapid changes and a focus on innovation. This process involved challenging values and new risks. Reaching mega-university size, rapid changes constantly created new issues and new opportunities and decisions to make. Key issues of broad interest emerging from the present study are next outlined below.

Government Force

The case study reveals that on two occasions PNU was strongly forced to change strategy by the Iranian government. The first time was related to rapid expansion and pressure to enrol more students in more fields of study, so improving the cost-effectiveness of the system. The second intervention was to stop the rapid expansion policy of the university. Irrespective of the fact that expansion was well beyond the capacity of PNU's staffing levels, PNU needed much more investment and by the time it became a mega-university the government could not meet its financial needs. Consequently, PNU also wished to reduce its enrolment. There is a basic paradox here. Improving cost effectiveness necessitates enrolling more students and this in turn needs more money than the government can afford. The available evidence suggests that the government has supported PNU only partly in pursuit of equality of higher education opportunities. A second rationale was to decrease the public outcry for increased higher education opportunities and to provide a mechanism for social control in order to enhance political stability.

Policy Making and Implementation Issues

Policy making in PNU is carried out in the University Council whose members are largely academic staff. These policies which are often made in a collegial and democratic way are more akin to academic objectives. They have less influence upon the administrative and industrial processes of the university.

Choice of policies is often based on assumptions regarding who is going to implement them. Major decisions for the implementation of policies are made largely by executive managers in step with administrative expediencies. Although the majority of these are academic staff, their crucial role in the decision making process leads to a situation in which the instructional staff feel policies are not implemented properly and their academic power is threatened. The findings of this study confirm findings of Snowden and Daniel (1980). Since these two groups of staff must normally support each other but tend to act on functional divisions, the implementation of many policies is faced with difficulties.

Management of a complex dual function (academic and materials production) distance mega-university is not an easy task. Academic affairs may traditionally be run on a consensual and collegial approach, but it can be argued that materials production is better served by a bureaucratic hierarchy. In other words, the bureaucratic model (necessary for the industrialisation of teaching-learning and materials production processes) contrasts with the collegial system (necessary to ensure the professional autonomy of academic staff). From another perspective we could argue that industrial systems are also necessary to ensure effective course development and presentation while academic systems are necessary for flexibility in course creation and presentation. Potential conflict between contrasting systems thus needs especially

. careful management in distance education. Furthermore, academic tasks cannot be separated from the operational, administrative and logistical services that support them (Rumble, 1986). Finally the influence of external ideo-political culture in Iran (the force of Islamic ideology) generates other distinctive problems for the internal organisational culture.

This interface is a challenging area for the management of a mega-university and one that is more complex and challenging for the managers of PNU given the political and values context within which they have to make their decisions. For this reason, PNU has distinctive difficulties to face in providing quality services. This study has highlighted some of the dilemmas faced in finding an appropriate balance between contrasting theoretical models of management.

In relation to the implementation of Islamic ideology the first step requires consideration of how spiritual and religious concepts can be translated into educationally achievable objectives, and how implementation can be improved. Answers to these questions are important for two reasons. First, they provide useful information about the limits of government initiated policies. In practice the extent to which universities meet the new goals reflects how well the balance of interests, values and power has worked out within the higher education system, along with their administrative capacity to implement policies. Second, a better understanding of the problems faced in implementation can lead to the resolution of conflict and to an improvement in operation. PNU's key managers were aware of the fact that the rational planning implied by the industrial model needed to take place after political compromise has been secured, but they believed that reaching the mega-university

size would reduce risk taking and political challenge. In practice, however, conflict remained.

Indeed, these are new issues for the very first mega-university of the country. Neither the government nor the managers of PNU have previous experience of these kinds of issues. Yet, it is very difficult to establish the balance needed among these contradictory forces. This study presents a model in figure 7.1 that represents the various factors and forces in the Islamic context. This, it is hoped, will help decision makers gain a clearer understanding of the dilemmas they face - and this, in turn, may contribute towards improved progress. How this may be used is discussed in the following sections.

Dilemmas of Two Different Models for Planning at Two Different Levels

The first development plan of Iran applied a social demand model to national educational planning. The model was suitable for PNU. However, the rationalisation of the higher education system in the country led to major changes in the process of national policy making and educational planning. The most important of these changes was the application of a manpower approach in educational planning within the second development plan of Iran. In order to effect this change another conflict arose between the national macro planning model and the university's micro planning which was still geared to the social demand approach.

The government expected all universities in the country to apply the new model in their micro strategic planning but PNU continued to use the social demand approach for two main reasons: firstly, it was argued that, PNU would be cost-effective only if it kept to its mega-university size and operated on a large scale based on the mass production principle of industrialisation; secondly, mass production requires mass

demand. There is, indeed, a mass demand for PNU's educational services in the country. The study has revealed how some critics thought PNU was opposed to the government policy and how they tried to prevent the university from retaining the social demand approach. Yet, the policy makers within PNU had another point of view. They considered social demand as a rational approach for a mega-university like PNU because of its nature. This, they argued, did not mean the university was opposed to the government policy. These two different points of view, each of which was considered logical by their promoters, gave rise to an argument between PNU and the government. The argument in turn brought about an unstable environment inside the university and compelled PNU to adopt contingent planning so as to enable the managers to response to sudden changes appropriately.

Contingent Planning

The literature on distance education consistently argues that the industrial characteristics of such systems require them to be carefully pre-planned, prepared and organised years before teaching takes place (Reddy, 1986; Rumble, 1986; Smith, 1987; Villarroel, 1988; Peters, 1994 and Daniel 1995). Since the decision on the establishment of PNU was largely made on political grounds to reflect the immediate needs of society, teaching was expected to start to operate as soon as possible. The founders of PNU were not, therefore, given enough time for planning. They had only two and a half months to prepare for operation and instead of thinking about the long term future they focused on immediate needs. The furthest ahead they looked at this stage, was six months (i.e. one academic semester). Surprisingly, in contrast to numerous recommendations from the literature, their compulsory flexible and contingent planing was so successfully realised that a number of key informants from

.this case study remain advocates of this approach. They argue that this approach helped them to respond rapidly and appropriately to an unstable environment, to control the situation and to correct or change directions when things were going wrong. The literature on flexible planning supports their argument, for example, Wallace and McMahon (1994:1) comment on this by stating that:

> ... incremental or step- by-step planning gives the flexibility rapidly to modify existing plans and create new ones whenever changing circumstances dictate the need.

Nevertheless, the advantages of flexible planning do not justify the elimination of long term planning. The lack of connection to long-term aims may result in the loss of coherence and consistency of activities. It is for this reason that Wallace and McMahon (1994:1) argue in favour of an approach to planning which protects short-term flexibility and the environmental stability that is necessary for effective planning for long-term coherence.

The present situation of PNU calls for the development of a planning model and structure that might place it a few steps closer to the third generation of distance education, within which flexibility is the main characteristic. In this respect the present study has helped to identify possible conflicting areas in policy making, planning and management, and to show how these conflicts could be removed or reduced (see Chapter Six, pp. 272-75). These findings could also prove helpful for other conventional universities throughout the country as they try to meet the demand for further education and in-service training emerging from the execution of the national development plan.

Even though PNU's managers eventually prepared a long-term plan for the university, they later returned to a more flexible approach. This time it was not, of course,

. because of the imposed circumstances, but because they considered this approach to
be successful experience (see Chapter 6 p. 260).

Cross-functional Issues

There are some cross-functional processes in PNU that create a complicated situation
particularly for middle managers and ultimately for senior managers. This cross-
functional process can be observed in course development and the production process
more than in other areas. Course development is the responsibility of several different
sections (see figure 5.1) each of which could blame the other for delays and problems.
Because tasks and jobs have not been well defined or specialised, co-ordination
among them is difficult. The related Vice-chancellors set up various committees and
prepared many guidelines for resolving these cross-functional problems, but according
to the findings of this case study these committees and guidelines were less effective
than anticipated (see Chapter Six, p. 247). This is considered as an additional barrier
for the industrialisation of materials production along with the dilemmas which are
discussed below.

Dilemmas of Industrialisation

The industrialisation of education in PNU brought about two major changes in the
traditional tasks of academic and non-academic staff. The first was a drastic change in
the autonomy, specialist roles and status of academics because of mechanisation, the
division of labour and the specialisation of the various stages of the teaching-learning
process. This was a radical change and an attack on the traditional authority of
professors, which gave rise to strong criticism from the academic community of the
country. Criticism focused on the technological optimism of the system, the

.fragmentation of the teaching-learning process and adoption of innovative methods and media with undue attention to their pedagogical consequences.

The second, change involved conflict between academic and administrative staff. This was less radical but more complex. While the ideal ratio for academic and administrative staff in a mega-university is open to discussion, a large cadre of staff in this type of university is, inevitably, administrative, including specialists and professionals such as educational technologists, instructional designers, audio-visual producers, editors, print designers, librarians and so on. Distance education thus required a shake up of power within the traditionally accepted organisational structure. Both of these changes influenced the nature of participation and substituted more direct intervention by new specialists and professionals in the academic and administrative processes. The success of policies, plans and decisions depends, to a large extent, upon the extent and amount of the involvement of all participants (see Chapter 3 pp. 83-84). This required PNU to change its organisational structure from a Fordist hierarchy to a flat hierarchy more typical of the post-Fordist mode of organisation. Whilst an overall view of the needs of the university relates to academic management, the new demands are essentially atomistic and/or technocratic. Thus, one side of the participation coin consists of academic and semi-academic specialists, and the other side of administrative staff.

The mega-university issues discussed above are bound up inextricably with each other. Controversies relating to policy making and implementation, challenges to some academic traditions, rapid expansion of the university, conflict between industrial and academic culture, between the academic and administrative, between

.university and government policy and so on, all seem complicated and insoluble at first sight. But it is not so.

Before going on to further reflect on industrial theory and the dilemmas of international transfer let us summarise these contradictory forces in figure 7.1 to provide a clearer representation of the situation.

Figure 7.1 Contradictory Forces in the Mega-university of PNU
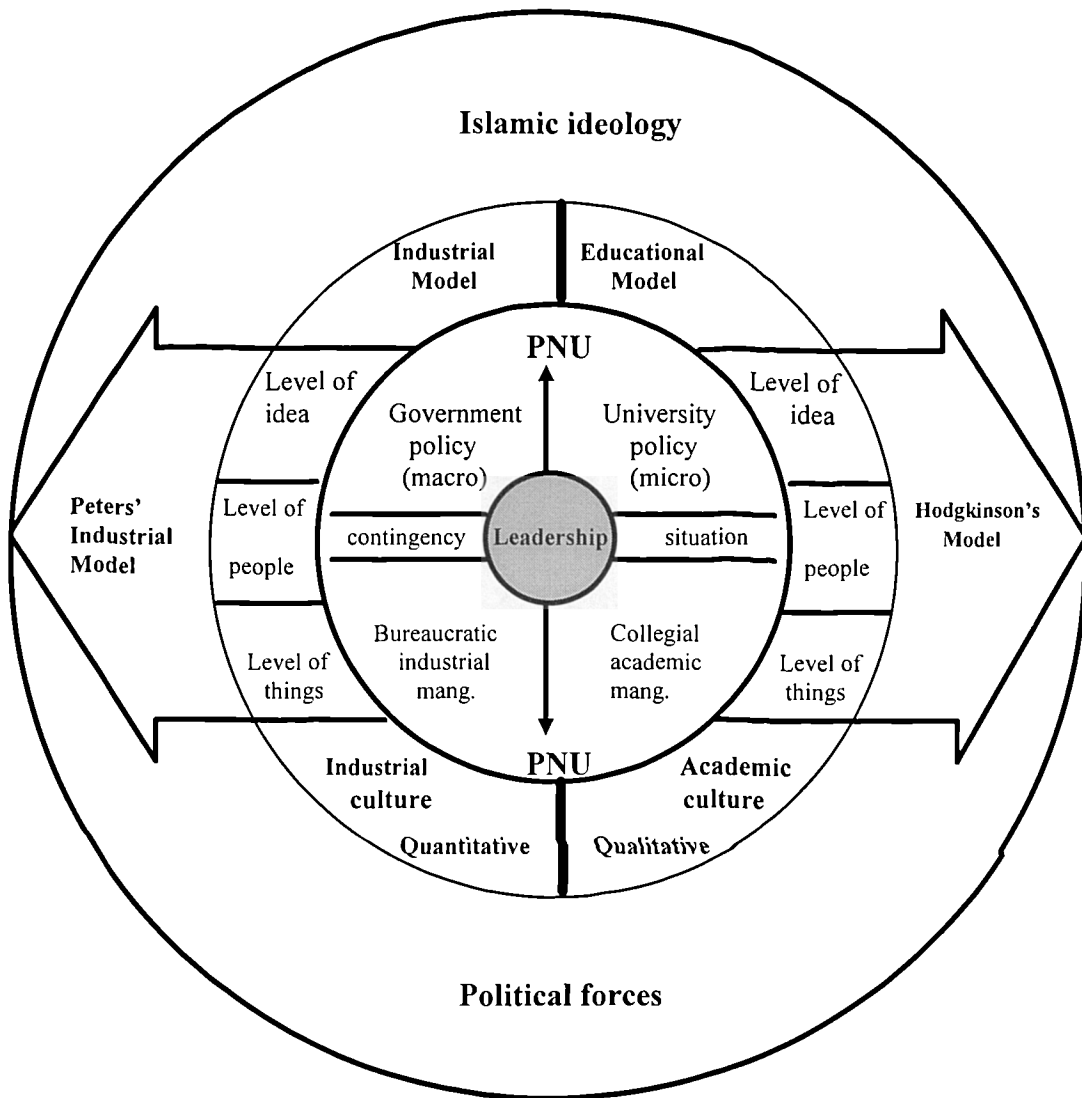
As can be seen in figure 7.1 these seemingly contradictory factors are, in fact, different approaches within a new system. This new system, i.e. the mega-university,

shares the characteristics of educational and industrial institutions. Mega-universities are new and rare in the world. It can be said that they are the first of their kind among distance education institutions. For this reason there is no well grounded practical or theoretical background for the management of these mega-organisations. Despite considerable similarities between the operation systems of the mega-universities (Daniel, 1995: 20), each of them has also adjusted to the political, economic, socio-cultural and educational circumstances of the countries in which they are operating. In mega distance education universities, educational and industrial concerns as well as academic and administrative issues are interwoven in every part of the system. Therefore, the analysis of their management process is particularly complicated and the existing management literature falls short of the mark. There is no single overarching theory that is appropriate to guide the management of such a university. In the real life of PNU, for example, each of the four models presented by Bush (1986, 1994) makes its own contribution to functioning and understanding of this particular mega-university. Most of its managers are not driven by a single management theory and their decision-making has a contingent nature (see Hoyle, 1986). Hence, instead of a special theory various perspectives of management and organisation have to be included in any comprehensive theoretical analysis of the management of distance education (Ljoså, 1993:187).

In the light of this case study in Iran it is argued that the role of leadership in this unique and complex organisation, in co-ordinating the national policy with those generated by academics and administrative personnel within the university, is crucial. The formulation of such policy cannot be an individual task. It requires constant teamwork that needs effective leadership. This must be able to create an efficient

pattern for policy and decision making, and a workable distribution of power between academic and administrative staff for creating a co-operative atmosphere for all participants.

One important point, emerging from both theory and practice, is that the middle and front line managers should have a real sense of participation in decision making and a sense of ownership of the university's plan. This group of managers in PNU, however, have not had such a sense. A second key point is that some senior managers in PNU, like some managers of conventional universities in the country, appear to be overstating their need for stability, leading to a reluctance to change their own principles. This is out of keeping with the dynamic nature of a mega-university. Those who wish to consider the future of PNU will have to determine how far it must differ from conventional systems and how far change is acceptable and essential for its survival. Conflict between the university and government is soluble only by a more careful consideration of the issues which have particular importance for both sides.

Further Reflections on the Industrialisation of Education in Iran: Dilemmas of International Transfer

The interpretation of distance education as an industrialised form of teaching and learning is not unique. This perspective reflected the social and economic success of the modern industrial era and much social science carried out in the 1970s and 1980s. (Shale, 1987). Peters' analysis is still one of the few fundamental contributions to the theory of distance education, although this theory largely belongs to sociology rather than education (Ljoså, 1993). Analysing the teaching-learning process from an industrial point of view is only a small part of a larger picture (Peters, 1994). Peters argues that:

> Industrialisation has changed and will go on changing our lives fundamentally whether we like it or not. ...People think in different ways and have developed

311

attitudes not known by their grandparents. It is unlikely that education can resist this process. We will probably have to face even greater changes of this kind in education if we are seriously to strive for egalitarian educational systems. In the same way as it will not be possible to feed, clothe and house nearly everyone in developing countries properly without industrialisation, so it will not be possible to provide education (1994:198-99).

To a certain extent Peters would seem to be right, but this is certainly not the whole truth. The industrialisation of the production of food, clothes or any other goods is entirely different from the industrialisation of education. Industrialisation of education jars against the socio-cultural context of education in developing countries. The process of industrialisation in Iran, for example, has been faced with some serious socio-cultural problems. Many argue that industrialisation is the product of western societies whose culture is largely based philosophically on materialism, socially on humanism, educationally on naturalism and methodologically on positivism. Most of these cultural characteristics are in conflict with the major cultural features of developing countries in general and the Islamic countries in particular. From their point of view a western model of industrialisation has three cultural specifications:

1. The relationship between humans and nature is based on the dominance of the former over the latter. This has led to the abuse of natural resources and the destruction of the environment. Industrialised education meets the needs of industrial companies by providing a highly skilled workforce for them and the best consumers for their products.

2. Human relationships in these industrial societies are based on ruthless competition and extreme individualism. Such a relationship has seriously damaged the social fabric and alienated the society from close human relations and empathy. This occurrence has brought about different consequences in different contexts. For example:

- hidden struggles and collusion between political parties as part of the democratic procedure in a political context;

- desolation of small businesses and industries in favour of large firms and industries, and the development of consumerism, potential and actual conflict between employers and employees in an economic context;

- the decline in religious, moral and family values, and unrestrained and free sexual relations as part of individual freedom and human rights in a social context;

- and finally, the competition of the majority of pupils and students with elites in all levels, and the conversion of knowledge and technology to an instrument of power for controlling the common people by elites at a national level, and other nations at an international level, in an educational context.

3. The detachment of the human from pure love- the love of nature and the love of the human- has jeopardised the future and rooted everything in the present. The positivistic belief in the 'here and now' has led to a destructive use of unrenewable natural resources. These cultural characteristics are explicitly or implicitly in contradiction with the native culture of most developing countries. Many such nations are aware of the danger of the transformation of this culture. Western individualistic features are in conflict with their own collectivist culture. They also recognise that industrialisation requires specialist knowledge and technology for which industrial countries are not ready to transfer the control of. Their problem is getting to grips with the mysteries of these technologies and incorporating the ability to create and/or use them appropriately in their own circumstances.

Industrialisation requires drastic changes in social and cultural structure which the people in developing countries do not like and hence resist. The cultural problems that

PNU has faced in the industrialisation of its teaching-learning and materials production processes also reflect such problems at the broadest level. This reflects Iran's efforts to find an innovative way to create native technology that can be absorbed into its strongly religious, moral and family based society. Iranian leaders believe that the advanced technology of the west could be a facilitator of economic development but they argue that it lacks moral content. They therefore seek to combine technology with Islamic moral content so that education can be more in keeping with Islamic society.

The industrialisation of distance education in the West has been successful because of its compatibility with the organisation, principles and values of industrial societies (Amundsen, 1993). Now western nations are seeking new ways for the development of distance education to make it match changes in industrial society as a post-industrial or post-modern era emerges (Peters, 1993a). Developing countries, however, are still struggling to match the principles and values of industrialism with their own societies. There is a basic difference here. The industrialisation of distance education is the product of industrial society, but the developing countries have to accommodate the benefits of industrialised distance education to a different society, with a different culture, which is not in tune with those principles and values. When Peters (1967) was analysing distance education based on industrial theory he never faced this substantial problem. This theory had its roots in western culture and was quite congruent with the organisational structure of Fordist mode distance education in Germany. In Iran, for example, most of the skilled workforce have originally come from rural areas and are more attuned to the demands of work for small manufactures rather than for a complex industrial enterprise. They have been trained in terms of

technical skills but such training courses have not changed their basic attitudes. Major change in social attitudes and values requires a movement away from a traditional culture -and this is questionable issue in itself. Without this, people are not able or willing to give up their habits and accommodate the industrial culture. Another prominent issue, in addition to cultural transmission, relates to the concept of the independence or autonomy of learners. The independence of learners is concerned with the opportunities given to them and the ability to use these opportunities. These depend upon the interrelationship between teachers as the supporters of learners and the facilitators of the learning process, and learners as self-directed individuals. While the ideal model for the industrialisation of the teaching-learning process requires such an interdependent relationship, in the PNU case this is currently not happening in practice. The reasons for this include the fact that both professors and students have a traditional concept of teaching and learning. This requires the former to teach in the classroom using specialist knowledge, and the latter to absorb, again in the classroom, knowledge and skills from these specialists. Professors do not like their professional authority to be broken down, their teaching process to be fragmented into specialised parts, and their traditional role to be limited to that of a subject-matter specialist within a course team. Likewise, students do not believe that academic learning is possible (and this is perhaps more important) outside the traditional campus-based framework. The radical change from conventional instructional methods, through industrialised distance education is, therefore, not universally welcomed by professors or students. For this reason, as mentioned in Chapter Five, students occasionally forced PNU study centres to arrange more face-to-face classes for them. And, as

discussed in Chapter Six, the application of the division of labour has also been resisted by the academic staff.

The last point is related to the role and nature of the workforce in any industrial institution, including distance education universities. One problem at PNU is that, while there are many specialist and skilled people at the top and many skilled and semi-skilled workers at the bottom of the pyramid of manpower, there is a shortage of middle specialists (e.g. very skilled technicians, educational technologists, instructional designers radio and TV programme producers etc.) to bridge the gap between these two groups. Thus, the proper application of the division of labour and setting an efficient assembly line in teaching-learning and materials production is very difficult.

Each of the issues discussed above have their own implications for all dimensions of the industrialisation process in developing countries. Without taking each into consideration the industrialisation of distance education would not be successful. It may be argued that these issues have little to do with the academic conception of industrial theory, but the application of any useful theory requires success in a practical context.

The present research has tested Peters' (1967) theory in practice in the contact of PNU. In the light of this it is argued that the adoption of any theory as a framework for a distance education institution or, in broader sense, for a national education system, must be based on a deep understanding of the relationship between education and society in different types of historical civilisations. More specifically, when applying a theory that has origins in a different cultural context, a critical stand point must be adopted, and national ideo-political perspectives and socio-cultural contexts must be

carefully taken into consideration as planners and policy makers adapt pre-existing models to the local context.

Two Theoretical and Analytical Frameworks: dilemmas of application

Recognition of the two different functions of the mega-university of PNU led the researcher to use two different analytical frameworks. The first is Peters' (1967, 1994) industrial model which is helpful in describing the significant characteristics of a distance education system as an industrial mega-organisation. The second is Hodgkinson's (1991, 1996) model of leadership which draws attention to the close relationship between policy making and policy implementation, and the dynamic role of good leadership in bringing the components of an organisation together for efficient functioning. The combination of these two analytical frameworks for the analysis of the mega-university of PNU proved to be most effective. It is argued that this dual analytical framework enabled the researcher to identify and understand many key issues that have long concerned PNU managers and policy makers (see figure 7.1).

The adoption of an industrial model by PNU has certainly played a leading role in the popularisation of higher education in Iran. We have discussed in detail in Chapter Six how PNU applied the principles of industrial theory to both its teaching-learning and materials production processes. When their activities are considered from Hodgkinson's point of view, functional problems relating to industrial theory (as the philosophical underpinning of the university) are apparent. Formulating micro policy and designing strategic plans for the university based on an industrial model requires an industrial system with a large scale bureaucratic organisation. On the other hand the implementation of policy and the successful realisation of plans requires flexible, academic management. In practice applying industrial theory with PNU personnel was

problematic. The mobilisation of the material resources and motivation of the human resources of the university on the basis of an industrial division of labour conflicted with the existing academic autonomy of professors, and their preferred flexibility for the teaching-learning process. Some serious issues, therefore, emerged in the process of moving from the realm of people to the realm of things. If the total process of moving from ideas to things (see figure 7.1 and Chapter Two) is conceived as administration of the university and administration is 'philosophy-in-action' (Hodgkinson, 1991, 1996), there should be less contradiction or incongruence between the philosophy being adopted and the actions being taken. This reveals a most significant problem in the application of industrial theory to an educational organisation when viewed from Hodgkinson's point of view. Industrial theory could not bridge the gap between policy making and policy implementation in the context of PNU. Moreover, the evaluation of the effectiveness of this theory requires clear and measurable indicators. In this mega-university, however, there are, as yet, few such measurable evaluative indicators. Thus, the formal evaluation of the efficiency of the university, in terms of its industrially based operation remains problematic.

The most obviously industrialised operation of a mega-university is reflected in the development of study materials. The production and delivery of study materials, nevertheless, supports the teaching-learning process and this too is highly industrialised at PNU. This remains controversial because the combination of industrial concepts and theories with education challenges traditional views and models of education. Critics continue to argue that the principles of industrial theory cannot easily be applied to strictly educational processes (Rumble. 1986; Evans and Nation, 1992; Ljoså, 1993).

Even if we accept the arguments made by Peters (1994: 195-208) in replying to his critics and accept his assumption that distance education is an industrial enterprise we should still argue that education is a service industry with characteristics of such industries (Ljoså, 1993). New insights from service industry theories can, therefore, be useful for the analysis of this dual feature organisation. Most of the criteria of a service industry such as intangibility, connection of production and consumption of services and participation of the customer in the production process (see Chapter Five p. 199 for the participation of students in the production and revising process of study material in PNU) are, as Ljoså (1993:185) argues, applicable to distance education. Furthermore, distance education is a student-centred system and service theories are user-centred. Ultimately, this raises the question of whether it is possible to provide an industrial mass education system which is sensitive enough to the individual needs of students. This points again to the future potential of third generation models - but this, and further consideration of the potential of service industry theories as an analytical framework, is left for future researchers to explore in depth.

Methodological Issues

The methodological issues which the researcher considered in the designing of this research were also complex. The case study was considered an appropriate strategy for this research given the specific aims and questions of the study. This case study strategy is largely qualitative in nature and interpretative/analytical in type. The case study in education often focuses on practice and policy making or on the management of educational institutions. Another key form of case study in education, as Bogdan and Biklen (1992) point out, focuses on a specific organisation and traces its development. The focus of this case study includes both of these types.

Case Study Research in Developing Countries: Strengths and limitations

The strengths and limitations of qualitative research and case study are discussed in detail in Chapter Four. Here we focus on its broader potential and limitations in Iran and the developing world. First of all, case study has much potential to use a variety of data collection techniques such as interviews, documents, observation and artefacts (Yin, 1994:8) to create and/or strengthen the linkage between research questions, theory, the data collected and the conclusions drawn. One major limitation of this research strategy is that often the researcher is the primary instrument of data collection and analysis. On the other hand such reliance can provide vivid insights into the phenomena under study, which emerge from the interaction and dialogue between researcher and the subject.

Case study research, has much to offer developing countries as a strategy for analysing and interpreting educational phenomena. The potential of this strategy to combine qualitative and quantitative methods has attracted many researchers - and one of the notable advantages of case study is its ability to deal directly and systematically with the real life of the case under study. One of the limitations of quantitative and experimental research is ignoring the cultural context of the phenomena under study. The validity of positivist strategies in social research is also criticised by many social researchers in Iran because according to Islamic culture, positivist methods reify social phenomenon and neglect their complexity. In these research strategies the process of research is being led by researcher's pre-assumptions or predetermined hypothesis about the social phenomenon and/or individuals behaviour. This consequently reduces the opportunities of recognising or discovering the complicated network of social relationships or relationship between attitudes and behaviour in their

real context. It is important in qualitative research to have a participative role in understanding the phenomenon. There are often no predetermined hypotheses, no predetermined remedies (Yin, 1994) and, more importantly few limitations on the nature of the end product.

After more than a decade, the value of the arguments of Crossley and Vulliamy (1984) for the greater use of case study in comparative and international education is being increasingly recognised. The importance of local contextual factors being taken into account in detailed fieldwork further strengths the argument for case study research. Knowledge produced in this way could make a great contribution to the field of international and comparative education (Crossley and Vulliamy, 1995) because it can reflect the insights of both external perspectives and internal understanding of the situation. The literature in the field of post-modernism, for example, (Cowen, 1996) has a strong connection with this line of argument recognising the importance of cultural differences in educational research. Increased respect for cultural factors should also play a central role in developing the awareness of researchers in developing countries about the potential of qualitative research in general and case study research in particular. In Iran, for example, there is a widely supported view that suggests the need to move away from quantitative and experimental research in social sciences. But as Crossley and Vulliamy (1995:8) indicate, 'there remains much to be done if the potential of qualitative research is to be fully realised' in many developing countries. Quantitative approaches to social sciences, particularly in applied areas like education are still dominant throughout the developing world.

It is argued here that the present case study, which carried out in Iran which has a strongly religious, socio-cultural context, will help to pave the way for further

applications of case study strategies and qualitative research in education in this nation.

Recommendations for Future Planning, Management and Research

Quality of Services

Distance education has often been seen as a student-centred system within which students are encouraged to undertake independent study. The problems and innovative solutions which have emerged in this system particularly relating to teaching-learning processes remain open to more investigation. Providing sustained support for students as they have to study independently and struggle with what has been called the hardest way yet devised to earn a degree (Mills and Paul, 1993:129) requires quality services for students. If it is accepted that quality should be defined according to students' perception, then understanding what they think about the quality of services provided for them is very important. This is an area of new research that PNU needs to carry out. The findings of such studies would help the university to identify more successful strategies to support students. This is a critical aspect of quality management in any mega-university.

Participative Management

The large scale of the operation of PNU as a mega-university and the geographical distribution of its study centres requires careful consideration of the concepts of centralisation and decentralisation. While the study centres should be empowered to make their own decisions on local issues they must still leave some essential decisions to be made in headquarters and they should follow policies that are centrally made. In the light of the PNU case study it is argued that organisational relationships in this mega-university should be based on two main principles: 1) maximum centralisation

322

in policy making, strategic planning and evaluation and **2)** maximum decentralisation in policy implementation operational planning and local issues (Ebrahimzadeh, 1992a). In this way the middle and front line managers will be better able to use their talents and creativity, and to play a more effective role in the organisation. This approach could also create more opportunities for senior managers to control policy making, to monitor policy implementation at any level, and to enhance their managerial and leadership capabilities which could result in an improvement of the efficiency of the university.

The findings of this study thus strongly support Rumble's (1986:178) argument that distance education systems are in some ways more managerial than conventional systems. Hence, strong leadership is a more important factor, not only from a hierarchical aspect but from the participation point of view. The participation of staff in the governance of a mega-university, it is argued, is crucial. Daniel (1995:81), for example, notes that:

> There seems to be some correlation between the success of mega-university and the level of participation of staff in governance. This is not surprising, for knowledge-based industries work best with management processes based on team work and consensus rather than hierarchy and authority.

This could provide a useful starting point for future research on the governance of mega-universities. Finding a conceptual and theoretical model which takes different conceptions of management into account would build well upon the present study and could contribute to the identification of more reliable ways for the planning and management of mega-universities.

Conclusion: Towards the Third Generation of Distance Education

In conclusion it is argued that as a mega-university PNU now needs to move carefully towards the application of the third generation of distance education strategies. The

development of the national telecommunication infrastructure and the possibility of using the electronic information network in the various study centres would make this possible.

In this regard linking students, course writers and tutors to each other as well as to students by telecommunications would be a major step. Daniel (1995:86) observes that:

> The knowledge and media promise to insert the two missing links [see figure 3.3] in the chain of distance learning: easy communication with the rest of the academic community and ready access to libraries and resources.

This will needs more investment and allocation of funding for growth. However , it is evident that new resources are not going to be allocated at least through the usual route of government funds. The question arises how PNU could draw the government's attention again to the importance and necessity of such changes. While part of the answer is to be more effective and better understood by the government, it is more likely to lie in the way that PNU increases its revenue by any available means and seeks for cheaper and more effective solutions.

This in turn will need careful planning and attention to the needs and realities of an Islamic culture that is more collectivist rather than individualist. Thus, the transfer of new third generation models to a very collectivist culture will again need a search for the most compatible aspects of third generation models which enhance individual autonomy in the learning process. The use of technology can provide personal support for students but will present new challenges to teachers who will be under the pressure of innovative methods and the need for rapid change. This could start with a limited number of courses as part of existing programmes with a flexible and open approaches. The lead medium for this mode of distance education is electronic

communication and the computer network, but print materials and other resources remain important. This case study reveals that profound changes in methods call for fundamental changes in policies and planning which create inevitable challenges in the university.

No mega-university can operate independently of its national culture and ideo-political context, nor can it be free from inherent internal tensions arising from conflicting academic and industrial cultures. If this case study has improved our understanding of this complex interplay of forces in the rapidly developing situation of Iran then it will have served its purpose.

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Appendix 1

Detailed fieldwork questions

PNU Origins, Assumptions (theoretical framework)and Objectives

- Why was the university initiated; what was its original rationale? what were the specific educational and/or social needs the university was meant to address?

- Was there a clearly defined audience at the outset?

- What were the university's original educational objectives? how were such objectives established? Are such objectives still valid? What changes have taken place in the institution's objectives since its foundation?

- What was [or still is] the university relationship to existing educational institutions?

- Was the university expected to play a temporary or permanent role in the national educational system?

- What form of technical and financial assistance was provided to the university during its start-up phase? Which agencies, domestic or foreign, provided such assistance?

University Characteristics

- What are the university's major components (written materials, radio/television broadcasts, audio/video cassettes residence courses, tutorial sessions, etc.); and what instructional role(s) do they play?

- How was each component designed, distributed and maintained?

- What institutions and groups are responsible for developing and maintaining each of the components?

- How are learners contact sessions organised? With what frequency, and with what kind of support?

- Have feedback procedures been developed to monitor the university's instructional process and components? If so, with what frequency are they employed?

- What changes have occurred in the design and use of media components, in the use of contact session/study group meetings, and in feedback procedures since the university was established?

-What evidence is there of effective coverage by the various media and of regular use of the media by students (completion of correspondence assignments, listening to radio/audio, viewing television/video, attendance at contact session/study groups)?

- How satisfied are students with the quality of the services and study facilities provided by the institution?

Learners' Characteristics

- Who are the learners (in of their age, sex, geographical location, marital status, previous education and work experience, career aspiration, etc.)? What changes, if any, have taken place in the student body over the years?

- What have the enrolment statistics been over the years? In what courses has there been significant growth or decline in enrolments?

- How are students recruited and enrolled? Are there formal entry requirements? What differences, if any, are there in recruitment patterns for different courses or programmes?

- Approximately how many hours per week are learners expected to participate in the programme? When, where, and how do they study? What is known about their study habits?

- Do learners receive formal credit or other tangible rewards for participating in the programme?

- What are and have been, students completion rates (i.e. what percentage of students who enrol complete their courses) and, where appropriate, examination pass rates?

Administration, Management and Financial Issues

- What is the university's legal and constitutional status? What is its relationship to the Ministry of Culture and Higher Education?

- What is the university administrative structure? What agencies are involved; and what are their specific responsibilities?

- How are project staff recruited and trained? To what extent do those who have received training remain with the system?

- Is there evidence that training has benefited the project? What additional training may now be required?

- What changes, if any, have taken place in the legal status or in the administrative structure since the university started?

- What administrative or organisational problems has the university faced?

- What are the major benefits and restrictions resulting from the university's legal status and administrative structures?

- How satisfied have students been with the efficiency of administrative services (enrolment, delivery of course materials, return of assignments, examinations, etc.)?.

Costs and Finance

- What resources were required to launch the university? What are its current resource requirements?

- What is the unit cost (per student) of instruction? How does this vary from course and programme? How has it changed over time?

- To what extent does the university depend on government vs. private financing; on external funding; on contributions from learners?

- How are learners contributions, if any, collected (registration fees, sale of materials, etc.)?

- To what extent has the university become financially self-sufficient? Has it developed any innovative means of support?

International Collaboration and Support

- What kinds of technical assistance has the university received? In what ways has the university benefited from such support? What technical assistance is it receiving now?

- What contacts have existed in the past, and exist now, between this university and other distance education institutions or projects? What benefits have been derived from such contacts?

- What has been the nature and value of networking activities conducted by other international agencies?

Impact and Sustainability of the University

- Has the university ever been formally evaluated? If so, what indicators and/or measures of impact (on the individual student, on the community as a whole) were employed?

- What are the university's major achievements shortcomings in the minds of its key constituencies and critics e.g. learners, administrators, donors, etc. ?

- How do such achievements and shortcomings compare with those of traditional universities operating in the country?

- To what extent have the university's major components been institutionalised? In other words, have they found a permanent "institutional niche" within the nation?

- Has the university produced discernible ripple effects on other educational institutions, either in the country or abroad?

(Adapted from Dodds and Mayo, (1992), International Extension College IEC)

Appendix 2

Case study of PNU Key Informants and Interviews Guide

Informants	Nature of involvement	Case study focus	Topics of discussion during the interview
Minister of Culture and Higher Education	Responsible for Government policy on higher education	Place and role of PNU in the national higher education	Government policies and strategies for higher education at distance education, strategies and policies for dealing with increasing the number of students and reduction of high unit costs
Chancellor of PNU	Responsible for policy making and policy implementation in PNU	Theory, planning and management of PNU and its main characteristics	Views on PNU's philosophical and theoretical framework, aims and objectives, planning and management, finance and budgeting, achievements, shortages and difficulties, and international collaborations
Vice -chancellor of Academic	Responsible for academic planning preparation of learning materials and instructional media	Planning, and management university's, characteristics and sustainability of the university	Views on PNU's aims, objectives, policies, mission, academic management and planning, role of the university in national higher education, university's major components, learning materials and instructional technology, and international collaborations
Vice-chancellor of Assessment and Students Affairs	Responsible for the evaluation of students, publication and distribution of learning materials	management of publishing house, and learning material production	Views on enrolment and registration, learning support issues (residential and tutorial sessions, the use of media)role of regional study centres, and university's achievements and shortages
Vice-chancellor of Finance and Administration Affairs	Responsible for finance budgeting, organisation, administration and management of PNU	Administrative and management, and costs and finance issues	Views on management underpinnings of PNU, financial resource of PNU, unit costs of instruction, financial support of university's programmes and regional study centres, staffing issues, and managerial and administrative issues
Vice- chancellor of Research	Responsible for studies and research on distance education, continuing education, planning for development of regional study centres, and, central library	Scientific support of university's programmes, continuing education, impact and sustainability of university and development of regional study centres	Research on distance education, the role of study centres development planning of the university criteria for the establishment of regional study centres achievements and shortages of PNU in these missions
General Director of Planning and Curriculum	Responsible for internal planning, and curriculum	Evaluation of learning materials broadcasting, and teaching methods	Evaluation of university's instructional efficiency and learning materials, internal planning broadcasting of university's programmes and their feedback, and achievements and problems in these missions
General Director of Students Evaluation and Academic Services	Students Services,	Registration, graduation, credits and students affairs	Assessment of students' progress, Registration rates, graduation rates, course completion rates in various fields

347

General Director of Developing and Compilation of Learning Materials	preparation of learning materials	Learning materials	How learning materials are designed, produced, distributed and maintained? print materials, audio/video cassettes, radio/television broadcasting
Manager of International Collaboration Office	International relationship and collaboration	PNU's international relationship and collaborations with other universities and agencies	Nature of PNU's relationship and collaboration with other distance education universities, agencies, and institutions. How PNU has benefited that relationships and collaborations?

Appendix 3

Interviews Timetable

1995

Informant	Date of Interview
Minister of Culture and Higher Education	8th Oct.
Chancellor of PNU	3rd and 14th Oct.
Vice-chancellor of Academic	2nd Oct. , 18th Oct. And 1st Nov.
Vice-chancellor of Assessment and Students Affairs	16th Oct.
Vice-chancellor of Finance and Administration Affairs	23rd Oct.
Vice-chancellor of Research	6th Oct.
General Director of Planning and Curriculum	12th Oct.
General Director of Students Evaluation and academic Services	6th Nov.
General Director of Developing and Compilation of Learning Materials	12th and 29th Oct.
Manager of International Collaboration	12th Nov.
General Director of Print and Publishing Centre	8th Nov.
Former Vice-chancellor of PNU	28th Oct.

APPENDIX 4

PAYAME NOOR UNIVERSITY Organizational Chart

University Trustees

- Trustees
  - Board of Auditors
- Chancellor
  - Chancellor & Public Relations office
  - University Council
  - Technical & Developmental Design Mgt.

Finance & Admin Vice-Chancellor
- Budget & Organization Management
- Financial Management
- Administration Management

Research Vice-Chancellor
- Studies & Research Management
- Central Library
- Study Centre & Continuing Educ. Development Mgt.

Students Affairs Vice-Chancellor
- Transport Services Management
- Student Evaluation &Academic Services Management
- Print & Publication Management
- Study Material Distribution Management

Academic Vice-Chancellor
- Textbook Preparation & Compilation Mgt.
- Academic Planning Management
- Media Management

Faculties, Regions, Centres

General Secretary-Country's Recruitment & Administration Affairs Organization

مدير کل دبیرخانه گزینش و سازمان امور اداری کشور

Minister of Culture & Higher Education (MCHE)

وزیر فرهنگ و آموزش عالی

Minister of Education

وزیر آموزش و پرورش

Vice President & Chancellor of Programme & Budget Organization

معاون رئیس جمهور و رئیس سازمان برنامه و بودجه

Sound & Vision Chancellor-Islamic Republic of Iran

رئیس سازمان صدا و سیمای جمهوری اسلامی ایران

Scientific Members Selected by (MCHE)

اعضای علمی منتخب وزیر فرهنگ و آموزش عالی

University Chancellor

رئیس دانشگاه