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by

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subject of the dissertation:

## Management of Flexible Responses in Higher Education

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# Management of Flexible Responses in Higher Education

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***From anyone who has been given much, much will be demanded; and from the one who has been entrusted with much, much more will be asked.***
***(Luke 12:48 NIV)***

## ABSTRACT

At this moment, all institutes for higher education are facing three major challenges namely the need for an increase in both flexibility and efficiency while maintaining or even enhancing the quality of the educational offer. The main purpose of this study is to devise and to carry out an architecture for organisational and educational development towards greater flexibility.

It has already become clear that modularisation can make an important contribution to this transition process. In principle, modularisation can be introduced in widely divergent educational systems which, from the point of view of learning theory, are based on different principles. Until now, experience in designing and using modular study material aimed at self-study has been primarily acquired in distance education. Three projects have been carried out in line with the approach developed on organisational development and modularisation in two Business Schools in the Netherlands and the Ecole Supérieure de Commerce, Lille in France. The devised educational and organisational architecture has been a very useful platform to introduce the necessary reforms.

The present study shows that institutions for higher professional education are evolving towards dual-model systems in order to increase their flexibility. In dual-mode institutions the advantages of traditional teaching methods are complemented by the stronger points of distance teaching. Right now the dual-mode system is viewed as a pragmatic compromise, but it may become the dominant educational/organisational model of the future.

### Key Words

Strategic flexibility, Total Quality Management, Reengineering, Organisational change, Innovation, Higher education, Modular curriculum development, Independent learning, ECTS- System.

## RESUME

A l'heure actuelle, chaque institution d'enseignement supérieur doit faire face à trois défis majeurs: un besoin d'augmentation de la flexibilité et de l'efficacité et en même temps, la qualité et l'accès à l'offre éducative doivent être assurés ou améliorés.

L'objet principal de cette étude est de contribuer à la fois à la recherche sur le management des institutions d'enseignement supérieur et de concevoir une architecture pour le développement organisationnel et pédagogique vers une plus grande flexibilité. Il apparaît clairement que la modularisation peut apporter une contribution importante à ce processus de transition. Jusqu'à nos jours, l'expérience en conception et usage du matériel didactique modulaire a été principalement acquise dans l'enseignement à distance.

La partie empirique de cette recherche comporte des études de cas et les approches développées sont décrites pour mettre en oeuvre la transition vers davantage de flexibilité. Ces cas fournissent une série d'orientations pour les institutions qui se voient confrontées à des défis similaires et essaient volontairement d'améliorer leur performance. En raison de la nature internationale de ce problème de recherche, l'investigation porte sur deux institutions d'Enseignement Professionnel Supérieur aux Pays-Bas et l'Ecole Supérieure de Commerce (Lille) en France.

Comme la présente étude le montre, l'augmentation de la flexibilité des institutions d'enseignement professionnel supérieur amène que celles-ci vont évoluer vers des sytèmes éducatifs dualistes. Dans les institutions de ce type, les avantages des méthodes traditionnelles d'enseignement sont conjointement complétés par les points forts de l'enseignement à distance. En ce moment, le système dualiste est vu comme un compromis pragmatique, mais il peut devenir le modèle éducatif/organisationnel dominant des années futures.



### Mots Clés

Flexibilité stratégique, Management de la Qualité Totale, Reengineering, Innovation, Enseignement supérieur, Réformes organisationnelles, Modularisation, 'Independent learning', Système ECTS.

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## ABSTRACT

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# INTRODUCTION

## 1 BACKGROUND

Since its official start in 1984, the Open university of the Netherlands has had a double mission namely, to offer its students both a 'second chance' at, and an alternative route through higher education. In addition, it is the task of the Open university to stimulate innovation in higher education in terms of both educational content and educational methodology (Verkuylen, 1994; Parliamentary Actions [Handelingen der Staten-Generaal], 1983-1984). In line with the new strategic course charted in 1995, the years ahead will see a further elaboration of the innovation task in particular.

The purpose of the present study is to use the expertise built up at the Open university in the area of design and development of modular open distance teaching, so as to provide approaches and instruments which will increase the flexibility of higher professional education. In addition, the study explores the basic elements needed to manage the transition towards a flexible learning environment. Quite apart from its theoretical and practical objectives, the study attempts to demonstrate that co-operation between institutions of higher education and the Open university can be beneficial to all parties involved. Knowledge and experience acquired outside the walls of the Open university can be extremely useful when it comes to finding fresh solutions to the new challenges facing higher distance education.

## 2 THE ORIGIN OF THE RESEARCH PROBLEM: THE ENHANCED NEED FOR STRATEGIC FLEXIBILITY IN HIGHER EDUCATION

The growing demand in most OECD-countries for more flexibility in higher education is the result of the interplay between several changes in the socioeconomic environment. These changes are:

- the increased demand for knowledge and formal certification;
- the progress in the various domains of scientific research;
- shifts in labour market requirements;
- enhanced internationalisation and exchange;
- information - and telecommunication technologies;
- a reduction in public spending.

The trend toward greatly increased schooling undoubtedly reflects increased demands for knowledge, increased reliance on formal certification, status and competition for jobs and other scarce rewards (Organisation for Economic Co-operation and Development, CERI, 1994) which is reflected by the manifestly growing demand for permanent education, vocational training and open learning.

This is compounded by the progress in various domains of scientific research which forces educational institutes to adjust the content of their programs at an accelerated pace.

Along with this emerging demand for a more differentiated educational offer, the continuous shifts in labour market requirements, caused by the evolution of western economies towards high technology economies, put a claim on the adaptability of the educational offer (European Commission, 1994b).

Within this context, the impact of the growing internationalisation of our economic environment and the European development ask for more transparency between educational systems and degrees. Moreover, technological innovations like desk-top publishing, interactive media and telecommunication technology offer new opportunities for the production and distribution of educational material at decreasing costs. These developments add new potential for economies of scale and national and international collaboration and exchange in the area of higher education. It may be clear that the need for higher education to permanently adjust to these changes demands more flexibility than what has been the case until now.

Finally, institutes for higher education are subject to considerable constraints as rationalisation and budget-cutting in public spending which have been imposed by succeeding governments.

The following Figure depicts an overview of the situation:

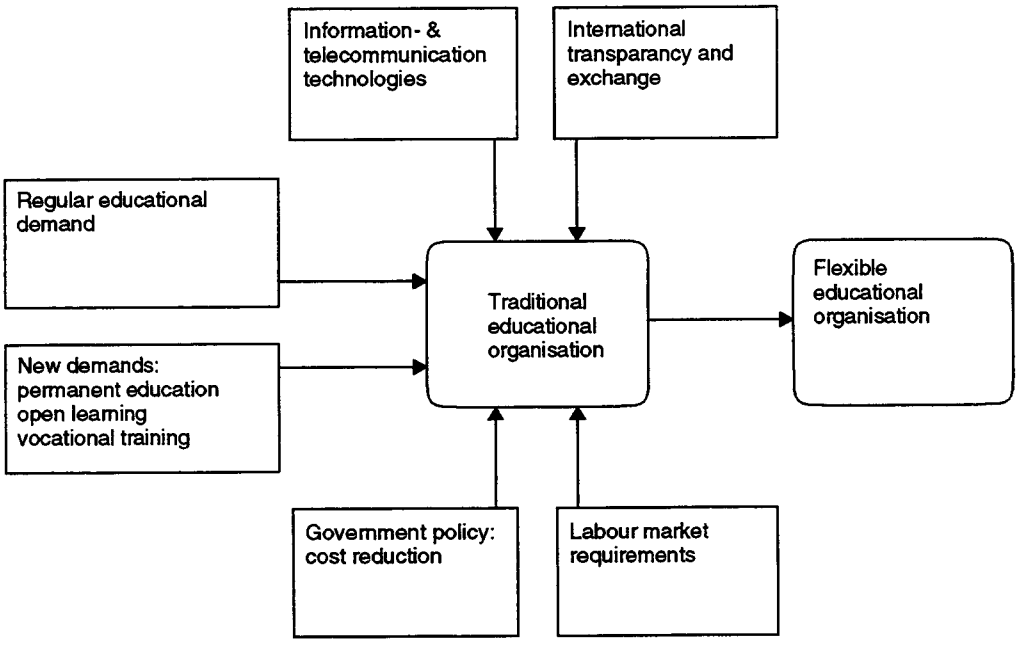


Figure 1: Pressures towards more flexibility

It could be argued that the major parameters which are forcing institutes for higher education to reshape their external and internal organisation are the labour market, the information - and telecommunication technologies and the state.

## 3 THE IMPLICATIONS OF THESE TRENDS AT THE INSTITUTIONAL LEVEL

At this moment all institutes for higher education are facing three major challenges namely the need for an increase in both flexibility and efficiency while maintaining or even enhancing the quality of the educational offered. In the face of this triple challenge each institute will have to devise a coherent solution with respect to each of the following questions:

- Which strategic options are possible for the institute?
- How can flexibility be enhanced within this context?
- Which organisational adjustments favour this flexibility?
- How can a curriculum be developed to implement this strategy?
- How can modules be developed that meet both quality and efficiency standards?

## 4 RESEARCH PURPOSE

The main purpose of this study is both to make a contribution to the research on management of institutions for higher education and to devise an architecture for organisational and educational development towards greater flexibility.

These purposes necessitates three sets of responses.
The first response is a mission statement and the development of a clear strategy. Each institute will have to define its own target groups, objectives and - eventually - strategic alliances. The requirement of enhancing quality as well as efficiency means that any ambivalence in the definition of the strategic position will hamper the ability to meet either one of these requirements.

The second response requires the development of an educational offer that:
- is easily adjustable to the needs of the students, the labour market and society in general;
- satisfies quality criteria in relation to the elaboration of both the content and the didactic presentation;
- is capable of integrating the possibilities offered by information - and telecommunication technologies; and
- reflects a transparent credit system to enhance the possibilities of collaboration and exchange between institutes in different countries.

Finally, an organisational implementation strategy also needs to be developed. Any reform of this nature has consequences for the organisation of the higher education establishment involved.

In order to meet these goals, institutes will have to:
- define their educational objectives in relation to their mission and their strategy;
- design and implement procedures to translate these objectives in terms of curriculum specifications and curriculum components;
- design and carry out procedures to coordinate the efforts of the different actors in the institute;
- design and implement procedures to evaluate the quality of educational performances according to the formulated educational objectives; and
- design and implement procedures to provide the teaching and the courseware on a cost-efficient basis.

More precisely, the theoretical part of this investigation will result in a framework on organisational research, organisational development and modular curriculum development in higher education. The framework is the basis for the architecture of the educational and organisational development in each institute for higher education.

The empirical part of this investigation consists of three case studies. These studies report on the usefulness of the developed approaches as a basis to implementing the transition towards more flexibility. These cases provide a series of guide-lines for institutions who see themselves confronted with similar challenges and who purposely attempt to enhance their own flexibility. Because of the international nature of this research problem, the study reports on two institutes for Higher Economic Education in the Netherlands (Eindhoven and 's-Hertogenbosch) and the Ecole Supérieure de Commerce (Lille) in France.

## 5 RESEARCH OUTLINE

In order to realise the purpose of this study, this research is structured in relation to the major questions which contribute successively to the described purpose.

The theoretical part of this research aims to provide a theoretical underpining of the architecture and implementation strategy to carry out this transition.

Chapter 1 (A framework for organisational research) and Chapter 2 (A framework for research programmes on management and organisations) deal with epistemological-methodological issues related to research in the realm of organisational research. Although epistemological and methodological issues are fundamental to all scientific disciplines, it was not the primary intention of this study to address this domain of inquiry. But, confronted with a multitude of competing theories, a framework to organise these perspectives was needed in order to organise them for future application. The frame of reference that was used has been elaborated in the realm of the philosophy of sciences. Besides the benefit of the provided orientation this frame of reference offers also the basis for the methodological underpinning of this research. At the end of Chapter 2 the methodological implications for this research are pointed out. Readers who are not interested in these meta-theoretical issues can ignore Chapter 1 and Chapter 2 without being hindered in their further reading.

Chapter 3 (Management of higher education) examines which organisational parameters are important for carrying out educational adjustments to increase flexibility, quality and efficiency. Towards this end seven research programmes dealing with management and organisation in higher education are examined with respect to whether they can be used to extract guide-lines for enhancing flexibility.

Chapter 4 (Modularisation and flexibilisation) highlights the possibilities of modularisation to enhance the flexibility of institutes for higher professional education. Modularisation is often connected to the didactic concept of 'active learning' which considers learning to be an individual, active process which is carried out by 'independent learners'. The different objectives of modularisation are discussed as well as the various stages of modular curriculum development and implementation.

Chapter 5 (Project-based module development) describes how module development can be organised in an effective way. Based on literature in the field of project management and completed with publications of the Open university, a transparent approach to organise the different activities is presented.

Chapter 6 (Major Issues for Educational Innovation in Higher Professional Education in the Netherlands) deals with the legal framework of institutes for higher professional education in the Netherlands until December 31, 1994. This is necessary for developing a framework to evaluate future developments.

Chapter 7 (Case Hogeschool Eindhoven), Chapter 8 (Case Hogeschool 's-Hertogenbosch) and Chapter 9 (Case Ecole Supérieure de Commerce, Lille) form the empirical part of this research. Each Case presents a description of the institute, the objectives of the reform, its design and implementation, the evaluation of the project and suggestions for future developments.

In Chapter 10, the results of this research are presented and an attempt is made to integrate various points of view into a constructive basis for introducing new structures and practices that help higher professional education to respond to present and future challenges. Finally, the major conclusions are outlined as well as suggestions for future research.

# CHAPTER 1
# A FRAMEWORK FOR ORGANISATIONAL RESEARCH

ABSTRACT

The realm of organisational perspectives is characterised by such a multitude of competing theories that a rationale to handle these perspectives would be very useful. In this chapter, an attempt is made to organise the theories in this realm of scientific investigation into a workable framework. This framework is mainly based on the contributions of the authors that are most referred to in organisational studies: Popper, Kuhn and Lakatos. It will be argued that Lakatos' view on research programmes offers a pragmatic basis for research taking into account the diversity of competing research programmes. Furthermore, it will be stressed that Analysis, Diagnosis, Design and Implementation are the successive stages of planned organisational development processes. Design-oriented investigations, attempting to increase organisational output, are mainly presented as case-studies. Finally, it will be shown that conflicts of interest often occur in organisational change processes which cannot be solved by any scientific approach. They must therefore remain the responsibility of the decision-makers.

## 1 INTRODUCTION

***"Only when they must choose between competing theories, scientists behave like philosophers."***

***T.S. Kuhn***

The research reported upon can be considered as applied research attempting to contribute to the solution of practical problems usually experienced by practitioners, who try to use the results of scientific inquiry. Obviously, this type of research is expected to be pragmatic and straightforward from the start.

In order to link this study with the results of previous scientific research, the aim of this investigation requires, at the least, a theory about the functioning of organisations, a theory about what can be done in order to enhance the flexibility of institutes for higher education, a realistic view about an appropriate intervention strategy and a method to devise flexible study programmes.

In accordance with the critical rationalist approach to science (Popper, 1979; 1959), the best tested theory should be preferred as a basis for applied research. According to this view, the best theory is the one that has withstood the most severe attempts at falsification and thus has weeded out its rival theories. In the realm of organisational research, there is at the present moment no theory available that can being considered to have a superior status in terms of the critical rationalist definition (Le Moigne, 1993: 126). On the contrary, a proliferation of theories characterises the domain of organisational research for at least three different reasons.

consists in testing a hypothesis against a null hypothesis and aims to reject or to maintain the investigated hypothesis in relation with the subject studied. Attempts to eliminate rival theories are not common practice (Hall, 1991; Grandori, 1987; Pfeffer 1981). Second, *the ideographic* or *subjective approach* has presented a wide variety of case studies on numerous subjects. The conclusions generated by these cases studies are not systematically confronted with each other since the epistemological assumptions of the subjectivist approach denies the possibility and usefulness of such a confrontation. Finally, given the state of theoretical proliferation, the underpinning of theoretical approaches is not based on test results, but is in many cases based on *epistemological* and *methodological* assumptions prior to any theory (Le Moigne, 1993; Hall, 1991; Martinet, 1990; Quinn, Mintzberg & James, 1988; Bahlmann & Meesters, 1988; Grandori, 1987; Camerer, 1985; Galbraith, 1980; Weick, 1979; Crozier & Friedberg, 1977 )[1]. Consequently, the problem-solving oriented researcher is constrained to define his or her position with respect to this proliferated theoretical domain.

This leads to the somewhat paradoxical situation that applied research - which is postulated to be pragmatic and problem-oriented - finds itself in the middle of an epistemological-methodological debate.

Understanding where and how major current perspectives on organisations differ is a prerequisite for making a purposeful selection among theories in order to devise an appropriate research design. Because questions about the usefulness of organisational theories, their implicit assumptions, and their implication for applied research cannot be answered adequately without reference to the major epistemological issues of science, we first wish to address ourselves to the major dimensions of this debate. In the ensuing paragraphs, the major dimensions of this controversy will be pointed out. Subsequently, a metatheoretical scheme for the classification of the major schools of thought in organisation and management theory will be presented.

## 2 THE FUNDAMENTAL PROBLEMS OF SCIENTIFIC RESEARCH

Since the Enlightenment, new attempts have been made to provide the foundations of all possible knowledge. The main issue of the epistemological-methodological debate in science is the question of what distinguishes knowledge from superstition, ideology or pseudoscience?

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1 Examples: Quinn, J.B., Mintzberg, H. & James, R.M. (1988: 518-524). The Strategy Process. The arguments in favour of a theory of configuration are chiefly based on epistemological assumptions.
Bahlmann, J.P. & Meesters, B.A.C (1988: 11). Denken & Doen, een studie naar de ontwikkeling en strategische heroriëntatie van zes Nederlandse bedrijven [Thinking & Acting. A study of development and strategic reorientation in six Dutch companies], emphasise that the basic questions of organisation theory are rooted in fundamental philosophical problems and are reflecting a much broader controversy in science, especially the assault on the dominant epistemology and paradigms of social science.
Grandori, A. (1987: 1-9). Perspectives on Organization Theory. Chapter 1 is titled: Crisis of Paradigms. This is perhaps the boldest review of the state of the actual controversy in organisation theory. To avoid the discussion about the corroboration of the contingency theory, Grandori proposes to search for this theory's best interpretation and to extend and develop this theory further from that point instead of testing this theory under the most severe circumstances.

Since Kant, this *demarcation problem* became the central problem of theory of knowledge. Scientists want to make their theories respectable, deserving the title 'science', that is genuine knowledge. Since the Enlightenment, a scientist was not allowed to guess: he had to prove each sentence he uttered from facts. This was the criterion of *scientific honesty*.

A second major issue is the problem of *induction*. The induction problem indicates the logical problem that particular observations only allow the formulation of singular factual statements which do not permit us to draw valid universal statements such as hypotheses or theories. This problem is fundamental in empirical sciences and especially for inductivists who consider observations of singular facts, as the basis beyond doubt, for theory-building, or in other words as a suitable 'criterion of demarcation' (Popper, 1979: 4-13). According to Lakatos' (1976) introduction to this subject, since the Enlightenment, theories were to be confronted with facts in order to overcome the demarcation problem. This reliance on facts was the most secure demarcation criterion because, before Einstein, most scientists thought that Newton had deciphered the laws of the Newtonian theory by proving them from facts. It was the fall of the Newtonian theory in this century that made scientists realise that their standards of honesty had been utopian and that their conception of science had failed.

Nowadays, facts are no longer considered as a perfect support for a theory. There can be no valid derivation of a law of nature from any finite number of facts, since a theory must be based on facts and a description of the initial conditions where these facts can be observed. The demarcation problem and the induction problem can be considered as the source of nearly all the other problems in the theory of knowledge (Popper, 1979).

## 3 FUNDAMENTAL PROBLEMS RELATED TO SOCIAL SCIENCES

Social science has always been and remains subject to methodological controversy (Sassower, 1993). The outcome of this debate will substantively affect the conduct of social sciences, though in the mean time the misconception that methodological problems only appear in social sciences could win ground.

A closer look at recent developments in the natural sciences reveals that the nature of experimentation, theory, and the aims of explanations have become current issues. Recent findings within the confines of the chaos perspective indicate that randomness and irreversibility play a more important role in physics than was assumed until now. New discoveries forced scientists to admit that most elementary particles prove to be unstable. This leads to a new view of matter in which matter is no longer the passive substance described in the mechanistic world view. This change of view is fundamental and the consequences challenge the basis assumptions of physics (Prigogine & Stengers, 1985).

The persistence of some of these issues may be illustrated by another controversy. Lakatos (1976) mentions the debate between formalist mathematics and informal empirical mathematics concerning the epistemology of mathematics. In this two thousand years during argument, the dogmatics hold that - by the power of human intellect and/or senses - we can attain truth and know that we have attained it. The sceptics, on the other hand, hold that we cannot attain truth or that we cannot know if we can attain it or that we have attained it.

According to Lakatos (1976), the correct scientific attitude that may allow us to overcome this kind of scientific dilemmas lies in the abhorrence of pretentious 'insights' along with a respect for conscious guessing which comes from the best human qualities: courage and modesty. An overview of the subjective-objective approach to social sciences will be presented in the ensuing paragraphs. They identify the four sets of assumptions relevant to the understanding of implicit assumptions of different organisational theories.

## 3.1 The ontological-methodological debate: Realism versus Nominalism

A long and sometimes bitter dispute raged between two parties: realists and nominalists over the nature of universal terms. The anti-nominalistic doctrine is traditionally called 'realism' or at times 'idealism'.

*Realists* deny that we first collect a group of single things and then label them 'white'. They say that we call a single thing 'white' on account of a certain intrinsic property that it shares with other white things, namely, whiteness. Universal terms are held to denote universal objects, just as singular terms denote singular things. Realism stresses the importance of universals for science. Singular objects, it points out, show many accidental features which are of no interest to science. Realists assume that science must strip away the accidental and penetrate the essence of things. The essence of anything is always something universal.

For *nominalists* universals differ from proper names only in that they are attached to the members of a set or class of single things. Methodological nominalists would put their problems in such terms as 'how does this piece of matter behave?' or 'how does it move in the presence of other bodies?'. Methodological nominalists hold that the task of science is only to describe how things behave. In their view, this is done by freely introducing new terms wherever necessary, or by re-defining old terms whenever necessary. Nominalists regard words merely as useful instruments of description.

The school of thinkers who accept the doctrine of methodological realism was founded by Aristotle who thought that scientific research must penetrate the essence of things in order to explain them. Methodological realists are inclined to formulate scientific questions in such terms as: 'what is justice?', 'what is force?'. They believe that revealing the essential meaning of these terms is at least a necessary prerequisite of scientific research, if not its main task.

Most people will admit that methodological nominalism has been victorious in the natural sciences. We should, on the other hand, expect the objective positivist approach to favour nominalism and the ideographic approach to favour essentialism in the social sciences. Methodological essentialists argue that the task of social sciences is to understand and to explain such social entities as the state, economic action, etc... and that this can only be done by penetrating their essence. The task of the social sciences is to describe such entities clearly and properly, i.e. to distinguish the essential from the accidental but this requires knowledge of their essence. The emphasis on the qualitative character of social events, together with the emphasis on intuitive understanding (as opposed to mere description) indicates an attitude closely related to essentialism (Popper, 1964: 27-31).

## 3.2 The epistomological debate: Anti-positivism - positivism

*Positivist epistemology* is, in essence, based upon the traditional approaches which dominated the natural sciences since Galileo. The name positivism was introduced by August Comte. The positivist theory of knowledge as such was formulated by August Comte and John Stuart Mill and is rooted in the work of David Hume and thoughts developed during the Enlightenment (Von Wright, 1974). Positivism postulates the doctrine of the unity of scientific method. This doctrine holds that all theoretical or generalizing sciences make use of the same method, whether they are natural sciences or social sciences. These methods always consist of offering deductive causal explanations and testing them through predictions (Popper, 1964). According to this view, there is no great difference between explanation, prediction and testing. The difference is not one of logical structure but rather one of emphasis: it depends on what we consider to be our problem[2]. Positivists differ in terms of detailed approach. Some claim for example that hypothesized regularities can be *verified* by an adequate experimental research programme. Others, like Popper, maintain that hypotheses can only be *falsified* and never demonstrated to be 'true'. However both 'verificationists' and 'falsificationists' accept that the growth of knowledge is essentially a cumulative process in which new insights are added to the existing stock of knowledge and false hypotheses eliminated (Burrell & Morgan, 1979).

The epistemology of *anti-positivists* in social sciences may take many various forms, but it is firmly set against the utility of a search for laws or underlying regularities in the world of social affairs. The social world is essentially relativistic for the anti-positivist and can only be understood from the point of view of the individuals who are directly involved in the activities to be studied. Anti-positivists reject the standpoint of the 'observer', which characterises positivist epistemology, as a valid vantage point for understanding human activities. They maintain that one can only 'understand' by occupying the same frame of reference as the participant in action. One has to understand from the inside rather than from the outside. From this point of view, the social sciences are seen as being essentially a subjective rather than an objective enterprise. Anti-positivists tend to reject the notion that science can generate objective knowledge of any kind (Burrell & Morgan, 1979).

## 3.3 Voluntarism - determinism: the 'human nature' debate

The question of whether human nature is determined or is autonomous has risen unexpectedly from the ontological-epistemological-methodological debate in science.

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2 Note: Popper, K.R. (1964: 133).The Poverty of Historicism. If we take it to be our problem to find initial conditions, or some of the universal laws (or both), from which we may deduce a given "prognosis" then we are looking for an explanation. If we consider the laws and the initial condition as given, and merely use them for deducing prognoses in order to get thereby some new information, then we are trying to make a prediction. If we consider one of the premisses, i.e. a universal law as problematic or an initial condition, and the prognosis as something to be compared with the results of the experiment, then we speak of a test. The result of tests is the selection of hypotheses which have stood up to tests, or the elimination of those hypotheses which have not stood up to them. The consequences of these view are that all tests can be interpreted as an attempt to weed out false theories. As it is our aim to establish theories as well as we can we must test them as severely as we can.

The positivist-nomothetic dimension, traditionally the approach to natural science, in search of regularities and laws in the physical world became successful beyond expectation with Newton's theory. This theory precisely explained not only the movement of stars and of bodies on earth, but it even explained the tides. Once convinced, scientists thought that, this theory would in the end explain everything, including the functioning of living organisms.

Physical determinism is the doctrine that all events in the physical world are predetermined with absolute precision, in all their infinitesimal details. It was the downfall of classical physics and the rise of quantum theory that prepared physicists to abandon physical determinism for physical indeterminism.

This shift from a theory of complete determinism to a theory in which unpredictable elements can occur meant a relief for psychology and philosophy since in this view as physical laws no longer were evidence against human freedom (Popper, 1979: 207-223). In the wake of this controversy in the natural sciences, the question of the nature of human freedom became an issue for most social-scientific theories. According to the voluntaristic view, man is completely autonomous and free willed. By contrast, the deterministic view postulates that man and his activities are determined by heredity and the environment in which he is located, although the degree of assumed determination differs from one social theory to another.

Insofar as social theories are concerned with understanding human activities, they must incline, either implicitly or explicitly, to one or another stand-point. Such assumptions are essential elements in social-scientific theories, since they define in broad terms the nature of the relationships between each individual and the society in which he or she lives (Burrel & Morgan, 1979).

### 3.4 The methodological debate: ideographic-nomothetic theory

With Descartes, method became the royal road to truth in the sense of the correspondence between fact and proposition (Popper, 1964). Consensus about methodical procedures disappeared during the nineteenth century. This issue became the object of a heavy methodology controversy in the twentieth century[3].

The *ideographic approach* to the social sciences is based on the view that one can only understand the social world by obtaining first hand knowledge of the subject under investigation which one generates by 'getting inside' situations. The longest established tradition of the ideographic approach is that of the *Geisteswissenschaften*, or 'hermeneutic philosophy', which in Germany dates back to the eighteenth century. Central to this tradition are the notion of *Verstehen* (Understanding) and a continuing emphasis upon a radical differentiation between the problem of the social and the natural sciences.

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3 Note: The most extreme position related to this issue of philosophy of science is represented by authors like Paul Feyerabend (1984: 16-22) who argues that the most successful scientific inquiries have never proceeded according to rational method at all. Paul Feyerabend claims that anarchism must replace rationalism and that intellectual progress can only be achieved by the creativity and the wishes of the scientist rather than the method and authority of science.

Max Weber was deeply influenced by this tradition, although in the same time highly critical of it (Giddens, 1976). According to the ideographic view, knowledge is not a passive mirror of reality. Its objects are determined by the way we comprehend them. Understanding or *Verstehen* can, in this way, be marked of from explanation since it is concerned with the 'meaning', 'relevance' and value contained in phenomena. This is fundamentally different from merely representing a case of something in general. The likelihood of misunderstanding increases with the distance - in space and time - between speaker and listener (Bleicher, 1987).

In this way, it places considerable stress upon getting close to one's subject and exploring its detailed background and life history. The ideographic approach emphasises the analysis of the subjective account which one generates by 'getting inside' situations and involving oneself in the everyday flow of life as is the case in the detailed analysis of the insights generated by such encounters with one's subject and the insights revealed in impressionistic accounts found in diaries, biographies and journalistic records (Burrel & Morgan, 1979). Understanding is directed at a meaningful totality of which the subject is already a part. In this approach, hermeneutics, or interpretation, is seen as a means towards understanding (Bleicher, 1987).

The *nomothetic approach* to social sciences emphasises the importance of basing research upon systematic protocol and technique. It is epitomised by the approach and methods employed in the natural sciences, which focus upon the process of testing hypotheses in accordance with the canons of scientific rigour. It is preoccupied with the construction of scientific tests and the use of quantitative techniques for the analysis of data.

Surveys, questionnaires, personality tests and standardised research instruments of all kinds are prominent among the tools which comprise nomothetic methodology.

This nomothetic, sometimes also called positivist, methodology is dominant in the social sciences. About 50-60 percent of all the research done in this area confines itself to the standard-model (Reuling, 1986), which consists of five stages (observation, deduction, induction, testing, evaluation). Collection and organizing of the empirical information takes place during the *observation stage*. Here the scientist is relatively free to organise his/her investigation in the sense that the standard approach has set neither logical nor methodological rules to be respected.

The formulation of hypotheses follows during the *induction stage,* information, questions and conjectures are formulated as hypotheses. During the *deduction stage,* testable predictions are deduced from the formulated hypotheses. These predictions are tested during the test stage in a new empirical situation in order to find out which hypotheses are to be accepted and which are to be rejected. Typical activities of the *evaluation stage* concern the scrutiny of the different steps of the research procedure and the examination of the potential value of the research results (De Groot, 1981).

Methodology must always state whether it is prescriptive or descriptive. Prescriptive methodology lays down standards which scientists are enjoined to follow. Descriptive methodology sets out the methodology adopted by successful research. A satisfactory methodology must be both, prescriptive and descriptive (Bleicher, 1987). It is important at this point to emphasise that the ideographic and nomothetic approach to social sciences differ in all important aspects of description and prescription of successful science.

## 3.5 Summary

The following Figure, adopted from Burrel & Morgan (1979), enables us to categorise the assumptions about the major dimensions of the social sciences. This overview can be used to compare and to contrast several theories in the field of social sciences including organisational theories.

Since the field of organisational research is characterised by a proliferation of very different theories, a rationale for selecting among theories is needed. Understanding where and how major current perspectives on organisations differ is a prerequisite to constructing a purposeful theoretical framework in order to devise an appropriate foundation for this research.

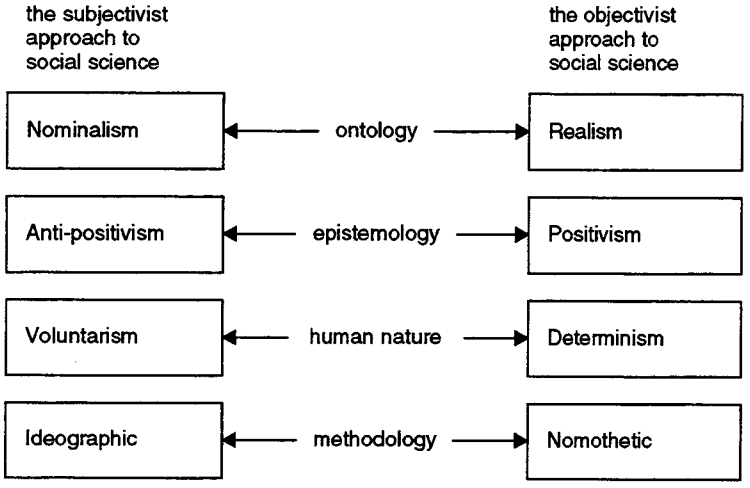


Figure 1.1: Overview of assumptions about the nature of social sciences
Adapted from: Burrell and Morgan (1979: 3)

At this moment, we are very far from a metatheory that consolidates the various assumptions vis-à-vis the four dimensions antecedent to all scientific work, although there have been attempts in the past to develop a meta-methodology (Zelditch, 1975) in social sciences. Within this context, research methodology can be considered as a set of heuristics[4] based upon underlying assumptions about reality, knowledge and human nature. It is unlikely to expect that a meta-methodology that neglects one of these distinguished dimensions to become broadly accepted.

# 4 ACTUAL STATE OF THE DEBATE

Some aspects of the theory of knowledge developed by Karl Popper have already been mentioned in previous paragraphs. Popper's *critical rationalism* can be considered as a brand of the objectivist approach to social sciences.

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[4] Note: heuristic in the sense of a loosely systematic procedure for investigation or inquiry that gives good results eventually and on the whole, but does not guarantee them in any particular case and certainly cannot promise 'optimum results'. Heuristic procedures seek to solve ill-structured problems and are opposed to algorithms which are designed to solve well-structured problems (Simon: 1973).

A frontal attack on Popper's theory of *growth* of knowledge[5] has been formulated by Thomas Kuhn. Although Kuhn elaborated his theory with the natural sciences in mind, his view became very successful among social scientists.

In front of the two antagonists Popper and Kuhn, Lakatos developed his view of growth of knowledge through research programmes primarily in accordance with Popper. Lakatos integrated some elements of Kuhn's vision on this issue, but stressed the importance of rationality for the growth of knowledge.

In the following paragraphs, an overview is presented of those elements of the different approaches which may have a significant role for organisational theories and research.

### 4.1 Karl Popper: the growth of knowledge by trial and error

Popper's contribution lies primarily in having grasped the full implications of the collapse of the best corroborated scientific theory of all times: Newtonian mechanics and the Newtonian theory of gravitation. In his view, scientific virtue does not lie in using caution to avoid errors, but rather in ruthlessness in eliminating them. Intellectual honesty consists in specifying the conditions under which one is willing to give up one's position. Belief may be a regrettable, unavoidable, biological weakness to be kept under control by criticism. Commitment to any scientific theory is an outright crime for Popper.

The following propositions summarise Popper's theory of knowledge:

1. Science is not a system of certain, or well-established, statements; nor it is a system which steadily advances towards a state of finality. Our science is not knowledge (episteme): it can never claim to have attained truth, or even a substitute for it, such as probability (Popper, 1975: 1).
All theories are hypotheses; all may be overthrown, as such, the claim that a theory is true has to be given up (Popper, 1979: 29).

2. The method of science is the method of bold conjectures and ingenious and severe attempts to refute them (Popper, 1979: 81). The falsifiability of a hypothesis is to be taken as criterion of demarcation, as it must be possible for an empirical hypothesis to be refuted by experience (Popper, 1975: 40-41).

3. The objectivity of scientific statements lies in the fact that they can be inter-subjectively tested (Popper, 1975: 44).

4. From a theoretical point of view non-refuted theories should be preferred because some of them may be true. The theoretician will prefer a non-refuted theory to a refuted one provided it explains the success and failures of the refuted one. For practical action, the best tested theory, that is the theory that withstood de most severe attempt of falsification, should be preferred as a basis for action (Popper, 1979: 14-22).

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5 Note: Kuhn's and Popper's views of epistemology and methodology are nearly identical and both are united in opposition to a number of characteristic theses of classical positivism. See also: Kuhn, T.S., (1980: 1-2). Logic of Discovery or Psychology of Research, in: Lakatos, I., Musgrave, A., (Eds.), Criticism and the Growth of Knowledge.

## 4.2 Thomas Kuhn: distinction between normal and revolutionary science

In his book *Structure of Scientific Revolutions,* originally published in 1962, Kuhn presents a different theory about the evolution of scientific growth. According to Popper, science is 'revolution in permanence' and criticism is the heart of scientific enterprise. According to Kuhn (1980), scientific revolution is exceptional and extra-scientific. In times of normal science, an individual scientist tries to connect his own research with the corpus of accepted scientific knowledge. Today such achievements are recounted by science textbooks. Early in the nineteenth century, before such textbooks became popular, many of the famous classics of science fulfilled a similar function.

For a time, Aristotle's *Physica,* Newton's *Principia*, Lavoisier's *Chemistry*, and many other works served implicitly to define the legitimate problems and methods of a research field for succeeding generations of practitioners. These classics of science were able to do this because they shared two essential characteristics. Their achievements were sufficiently unprecedented to attract an enduring group of adherents away from competing modes of scientific activity. Simultaneously, it was sufficiently open-ended to leave all sorts of problems for the redefined group of practitioners to solve. Achievements that share these two characteristics are called 'paradigms' (Kuhn, 1980).

As Kuhn puts forward, the testing of hypotheses in order to attempt to falsify them has a limited purpose during periods of normal science. If, during the test, the hypothesis or conjecture under investigation passes enough stringent falsification attempts, then the scientist has made a discovery or has at least resolved the puzzle he had set out to study. If the tests are not passed, then he must abandon the puzzle entirely or attempt to solve it with the aid of some other hypothesis. Many research problems, though by no means all, take this form. Tests of this sort are a standard component of 'normal science' or normal research, which accounts for the overwhelming majority of the work done in basic science. In no usual sense, however, are such tests directed against the hard core of the current theory. On the contrary, when engaged with a normal research problem, the scientist must use current theory as the rule of the game. Under these circumstances the practitioner tests his personal conjecture. If the test fails, the practitioner is blamed, not his tools. In short, though tests occur frequently in normal science, these tests are of a peculiar sort. In the final analysis, it is the individual scientist rather than the current theory which is tested. Professionals are trained primarily for this normal science and not for its revolutionary practice.

Revolutionary episodes are rare in the development of science. When they occur, they are generally called forth either by a prior crisis in the relevant field or by the existence of a theory which competes with the existing canons of research. Extraordinary research often deals with the testing of basic commitments. In normal periods, critical discourse is abandoned in favour of puzzle solving. Critical discourse recurs only at these rare moments of crisis when the basics of the field are again in jeopardy.

Scientists only behave like philosophers when they must choose between competing theories, (Kuhn, 1980: 4-11). For Kuhn the idea that on 'refutation' one can demand the rejection, the elimination of a theory, is 'naive' falsificationism. Once a theory has achieved the status of paradigm it will be declared invalid only if an alternate theory is available to take its place (Kuhn, 1970: 77).

Scientific revolutions must in this light be understood as non-cumulative development periods in which an older paradigm is replaced either wholly or partly in whole by an incompatible new one (Kuhn, 1970: 92). Scientists are reluctant to embrace a new paradigm candidate unless they are convinced that two important conditions are met. First, the new candidate must seem to resolve some outstanding and generally recognised problem that can be resolved in no other way. Second, the new paradigm must promise to preserve a relatively large part of concrete problem-solving ability that has accrued to science through its predecessors. To say this is not to suggest that the ability to solve problems is the unique basis for paradigm choice, there can be no criterion of that sort (Kuhn, 1970: 169).

Scientific change for Kuhn - from one 'paradigm' to another - is a mystical conversion which is not and cannot be governed by rules of reason and which falls totally within the realm of the (social) psychology of discovery. Scientific change is a kind of religious change. In contrast to this, scientific change for Popper is rational or at least rationally reconstructable and falls in the realm of the logic of discovery.

## 4.3 Imre Lakatos: methodology of rational research programmes

Lakatos approach is an attempt to reconcile Kuhn's widely accepted description of scientific revolutions with Popper's idea of scientific development on a rational basis.

According to Lakatos (1978: 112), a research programme is constituted by a hard core of hypotheses, around which a layer of supplementary hypotheses function as a sort of protective belt. The positive heuristic of the research programme aims to adapt or to refine these peripheral hypotheses, while the negative heuristic forbids attempts to attack the hard core of the research programme (Lakatos, 1980: 132-135). A research programme is successful if all this leads to a progressive problem shift. It is unsuccessful if it leads to a degenerating problem shift (Lakatos, 1980: 133). In the realm of organisational research, for example, theories within the confines of the research programme on open systems are based on the assumption that any organisation is permanently influenced by its environment. The negative heuristic, in this case, forbids attempts to falsify the hypothesis on the relation between an organisation and its environment.

The positive heuristic tries to refine the set of propositions on the environment - organisation relation. The contingency theory, in this context, can be seen as a further elaboration of the open system theory, integrating the results of research focused on the structural analysis of organisations and performance. Moreover, the structural contingency theory predicts which organisational structure will be efficient given the environmental circumstances (Grandori, 1987: 2). As such, this theory is a more sophisticated elaboration of the open system hypothesis and clearly in line with the aims of the positive heuristic of the research programme.

The appraisal of research programmes consists of the evaluation of their heuristic power. Metrics for determining this power are, for example: how many facts did they produce, how great was their capacity to explain their refutations in the course of their growth? This approach explains why a theory is not always given up after it has been falsified by an experiment. To Lakatos, the history of science has been and should be a history of competing research programmes (or 'paradigms'), but it has not been and must not become a succession of periods of normal science.

The sooner the competition starts, the better for progress. What Kuhn calls 'normal science' is nothing but a research programme that has achieved a monopoly position (Lakatos, 1980: 154-155). Scientific revolutions are not irrational. Rationality implies that each attempt to refute a theory must augment the empirical content of that specific theory. When a research programme fails to integrate new factual propositions, this programme degenerates and will finally be abandoned for a more promising research programme (Van Brakel & Van den Brink, 1988).

Kuhn's paradigmatic entities are, in Lakatos' view, scientific research programmes, as long as the following matters are taken into account. According to Kuhn (1970: 76), collaboration between researchers working within different paradigms is not possible because the variance in both their implicit and explicit assumptions is too important. Kuhn calls this the 'incommensurability principle'. Lakatos (1978: 60), on the other hand, argues that the possibility of collaboration and communication between different research programmes (or paradigms) is not excluded.

The recent evolution in the field of organisation theory appears to be more in line with Lakatos' contention. Since the late eighties, there has been a strong tendency to combine the results of research programmes previously regarded to be incompatible. In their search for the firmest possible basis that can be established for certain observations, researchers seek actively to integrate the findings of various research programmes (Hall, 1991; Grandori, 1987). Thus, by actively seeking agreement, a conscious attempt is made to prevent the incommensurability principle from creating an intellectual impasse where important research contributions may become fruitless (Mertens & Bormans, 1990).

## 5 FUNDAMENTAL ISSUES RELATED TO APPLIED RESEARCH

### 5.1 Fundamental research versus applied research

Nearly all research is considered to have its origin in a major problem. We do not begin research with observations without having a priori a question or a problem in mind (Popper, 1975; 1959). A distinction can be made between theoretical problems which are the primary concern of fundamental sciences and practical problems which are the focus of applied sciences. Generally, the second type of scientific research - applied research - originates from practical problems. Applied research is characterised by a hybrid form of empirical cycle because it must meet both practical as well as scientific requirements. Applied scientific research in the field of business administration is focussed mainly on techniques of business administration intended to improve results.
Typical examples of such research are the development of a project management design for a specific organisational setting, or a study about the effects of improved working conditions upon output. Design-oriented studies are often presented as case-studies (Van Aken, 1994; Van de Vall, 1975).

The emphasis upon the applied technological approach does not mean that theoretical problems that may arise from the analysis of the practical problem should be excluded. The applied or technological approach is actually often very likely to prove fruitful in raising significant problems of a purely theoretical kind.

Beside helping in the fundamental task of selecting problems, the technological approach also imposes the necessary discipline on speculative inclinations since it forces scientists to submit their theories to definite standards, such as standards of clarity and practical testability (Popper, 1964). It is worthwhile to note that - from a methodological point of view as elaborated by Popper - there is no demarcation line between fundamental and applied research. In applied research as well as in fundamental research, hypothetical solutions are found by trial and error and should be submitted to tests. For this reason, attempts to justify the scientific nature of applied science (Van Strien, 1986, 1975; Garner, 1972) are, in our opinion, pointless.

## 5.2 Applied research: the regulative cycle

Van Strien and other authors like Van Dijkum, De Bruyn & Van Kats (1981), emphasise the fact that the aim of applied research is problem solving and social change rather than prediction and explanation. Therefore, Van Strien has proposed calling the empirical cycle of applied research the regulative cycle since it seeks to direct a situation towards an end to be attained. Consequentially, Van Strien (1986) pleads for the development of a methodology specific to applied research.

Although Swanborn (1987: 392) rejects the necessity of developing different kinds of methodologies for different types of research, it cannot be ignored that the approach used in applied research differs in several aspects and requirements from the variable-oriented approach endemic to fundamental research. It is very likely to expect that different applied social sciences such as business administration, psychology, and pedagogy will each develop their own set of research procedures distinctive to its specific domain of interest. If doing so implies the development of a new kind of methodology - or not - seems to us a matter of definition.

## 5.3 Applied research and planned organisational change

Organisational change implies going through different stages of problem-solving. Diagnosis, Design and Development are, for example, broadly accepted consecutive stages of planned organisational change (Van de Vall, 1975; Hage & Aiken, 1970). As mentioned earlier, applied research can contribute to each of these stages and become an agent of planned organisational change.

A planned organisational change process, is depicted in the following Figure:

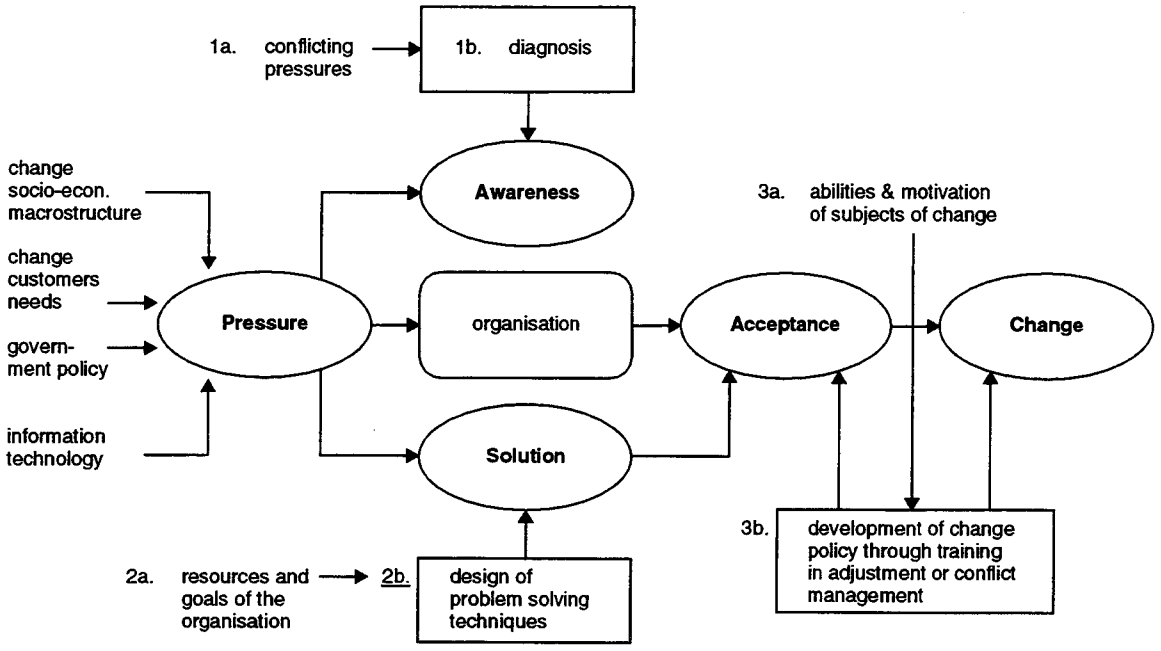


Figure 1.2: Organisational change and decision-making
Adapted from: Van de Vall (1975: 18)

*Diagnosis,* stage (1b) requires condition (1a): the experience by policymakers, of conflicting pressures. In some cases diagnostic research may first take place. *Design,* stage (2b) requires condition (2a): the selection of one or more possible solutions to be implemented for implementation depends, to a great extent, upon the organisation's ability to operationalise the recommendations as policy. In other words, the solutions chosen should lie within the organisation's resources and goals. A proposed solution will often be incongruent with the capability or goals of all groups involved.
The implication is that in the stage of policy design, 'goal maximisation' may have to be replaced by the more subtle procedures of 'satisfying' i.e. the balancing of several policy alternatives. *Development*, stage (3b) requires condition (3a): the successful implementation of a design depends, to a great extent, upon the policymaker's motivation to be trained in behavioural adjustment or the management of conflict. Categories (1a; 1b), (2a; 2b), (3a; 3b), are successive stages in one and the same process of organisational change.
This has serious consequences for the academic social sciences, where each stage has been appropriated by a separate discipline, with its own set of theories and concepts, methods and techniques.

For example, *Diagnosis* (1) is often appropriated by the discipline of Sociology with its theories of social problems, social change, and social organisations and its methods of social research, measurement, sampling and analysis. *Design* (2) is often appropriated by Public or Business Administration, with their theories of administrative Behaviour, methods of policy formation, cost benefit analysis, use of heuristic models, systems and games. *Implementation* (3), has been commandeered the disciplines of Social Psychology and Policy Science, with theories of behavioural change, methods of decision-making, group feedback analysis, managerial GRID (Blake & Mouton, 1969), and conflict management.

Each of the disciplines tends to have its own perspective and its own methodology, a tendency which does not make matters either simpler or clearer. What is needed is a more interdisciplinary approach (Van de Vall, 1975), which provides researchers with a perspective that allows them to comprehend sufficiently the world of organisations in order to manage change as effectively and as efficiently as possible. When it comes to contrive intangible devices, comprehension is a prerequisite, but not in itself a solution. Beyond comprehension, a constructive approach is demanded in this area of scientific inquiry to devise the appropriate solutions (Martinet, 1990).

It lies within the realm of scientific research to develop tools to achieve certain goals. By contrast, conflicts of interest cannot be solved by any science, or scientific method. These conflicts therefore remain the domain of decision makers. Whilst some social system perspectives tend to de-emphasise the plurality of interests, we expect the struggle among competing interests to have a high claim on the attention of leadership. Or as Philip Selznick (1988: 41) expresses it:

> "Successful implementation requires of management the fulfilment of a dual task. It must win enough consent in order to maximise voluntary cooperation, and in order to hold the helm, it must see that a balance of power appropriate to the fulfilment of key commitments will be maintained."

## 6 CONCLUSIONS

Applied research intends to develop solutions for problems experienced by practioners. Generally, applied research relies on theories developed in the realm of fundamental research and each investigator attempts to integrate the results of these inquiries into a workable theoretical foundation in order to solve the problem. Hence, the proliferation of the domain of organisational research makes it extremely difficult to construct such a basis. The controversy - opposing theories in organisational research - is not based on the usefulness of these theories for a better understanding or management of organisations, as one would expect, but refers rather to a fundamental debate in the realm of ontology and epistemology. Clearly, a metaframework to order the contributions of the different schools of thought is a helpful guide through this proliferated domain. The major issues related to this domain of inquiry have been discussed in previous paragraphs based on the contributions of Popper, Kuhn and Lakatos. Most research in the realm of organisation studies refers to this authors in relation to epistemological and methodological issues.

The critical rationalist approach as elaborated by Popper (1980; 1979; 1975; 1964; 1959) has become the dominating epistemology of science. Nowadays, mainstream research primarily confines itself to the objectivist approach to science. Based on the falsification principle, broadly accepted investigation strategies have been elaborated. In terms of Popper's opponent Kuhn, one may conclude that Popper's view has nowadays become 'normal epistemology'. Moreover, according to the positivist view, theories and their utilization must be formulated so that disproof is possible. It appears, however, that in the realm of organisational research, the failure of predictions seldom leads to the abandonment of the underlying theory. It seems, rather, to intensify the search for moderators that could somehow account for the observed data.

In other words, instead of negative evidence being taken as a reason to seek alternative perspectives, negative evidence is often seen as a reason to redouble the effort to maintain the perspective.

In reference to the assault on the dominating epistemology of science, it seems fair to apply the falsification criterion to itself. So, from a scientific point of view, the more assaults on the critical rationalist approach, the better. But it should be acknowledged that the real challenge remains to elaborate a theory of knowledge with a greater heuristic power to solve the fundamental problems in the epistemological domain.

In order to connect this study with the results of previous investigations, the approach presented by Lakatos on research programmes offers a pragmatic basis to make a selection among the major theories. The main theories should be viewed as different research programmes, or sets of related studies aimed at solving different problems. According to this view, connections between research programmes are possible but are not yet clear. Lakatos' (1980; 1978) contributions to the theory of knowledge can be seen as an attempt to reconcile Popper's view with Kuhn's vision on the growth of scientific knowledge. What are the consequences of this debate for actual research done in the area of applied organisational research? Instead of searching general principles that are universally applicable to all organisations, or at the opposite attempt to capture the uniqueness and complexity of organisations, it may be useful to distinguish classes of organisations that are sufficiently similar within themselves and dissimilar to others to favour the creation of middle-range theories. Thus, the tension between the ideographic and nomothetic orientation can be reduced (Grandori, 1987).

Finally, applied research is expected to meet practical as well as scientific requirements. From a methodological point of view, a demarcation line between fundamental research and applied research does not exist. Research on planned organisational change can be classified in terms of in the following stages: analysis, diagnosis, design and implementation. In the realm of business administration, investigations to improve organisational output are often presented as design-oriented case-studies. There is clearly a need for more interdisciplinary collaboration during each of these different stages. It should be stressed however that the plurality of interest in organisations has an important impact on decision-making. As their are no scientific solutions in this area, they must remain the entire responsibility of decision-makers.

# CHAPTER 2
# A FRAMEWORK FOR RESEARCH PROGRAMMES ON MANAGEMENT AND ORGANISATIONS

ABSTRACT

In the ensuing paragraphs, a systematic examination of the main research programmes in management and organisation will be presented to define the frame of reference that offers the most constructive basis for this research on organisational change in higher education. Research programmes on organisations can be classified as belonging to one of four major paradigms, namely the 'Radical humanist paradigm', the 'Radical structuralist paradigm', the 'Functionalist paradigm' and the 'Interpretative paradigm'. Mainstream research in this domain of scientific investigation is primarily dominated by the functionalist paradigm. This paradigm is based on a positivist approach towards science on the one hand, and the view that organisations are unitary systems directed by a common interest on the other. It will be argued that research perspectives developed within the functionalist and the interpretative paradigm offer the most useful basis for the purpose of this research. Consistent with recent developments in research on management and organisation, it will be argued that it is useful to integrate various organisational perspectives into one conceptual blueprint as a basis for design and implementation of the necessary adjustments.

## 1 INTRODUCTION

Intellectual endeavour has always included the attempt to find unifying concepts for experience to show that reality has a limited number of ways of displaying itself when viewed in terms of the proper abstractions (Glassman, 1973). Various attempts to classify the diverse schools of organisational thought have been presented by Morgan, 1989; Grandori, 1987; Astley and Van de Ven, 1983; Burrell and Morgan, 1979; Benson, 1977.

To enable us to select, in the debate between rival theories, those approaches which seem helpful to realise the purpose of this research we will in this section scrutinise the main assumptions underlying current organisational theory.

According to Burrell and Morgan (1979), the nature of any organisational theory can be defined in terms of:

- a subjective-objective dimension in relation to epistemological debate; and
- the assumptions about the nature of society in relation to a regulation - radical change dimension.

The second dimension, rooted in sociology, stems from the fact that the sociology of organisations is confronted with the question of whether the nature of an organisation - a society at the micro level - is based on order or conflict. Depending upon the answer to this question, regulation or radical change will be advocated. Social order is a major issue in the work of sociologists as Durkheim, Weber and Pareto.

Marx, on the other hand, was primary preoccupied with the role of conflict as a driving force behind social change. The order - conflict debate is an abandoned discussion since social order is accepted to be the central concern of sociology. Burrell and Morgan (1979), introduced the term *'sociology of regulation'* to refer to the writings of theorists who are concerned with providing explanations of society in terms of unity and cohesiveness. In an extension of this view, on a different level of analysis organisations are regarded as unitary systems under the umbrella of a common goal. The *'sociology of radical change'* stands in stark contrast to the 'sociology of regulation', and its basic concern is to find explanations for radical change, structural conflict, modes of domination and structural contradiction which are all seen as a characterising modern society.

## 2 FOUR PARADIGMS OF ORGANISATIONAL ANALYSIS

In this paragraph, an attempt is made to categorise the different schools of thought in the realm of organisational theory. Furthermore, recent developments in relation to this frame of reference will be localised and their implications for research in this domain will be presented.

Taken together, the two distinguished dimensions:

- radical change - regulation as the nature of organisations;
- objective - subjective approach to science

define four distinct paradigms which can be used for the analysis of a wide range of social theories. The relationship between these paradigms, labeled by Burrell and Morgan (1979) as 'Radical humanist', 'Radical structuralist', 'Interpretative' and 'Functionalist', is depicted in Figure 2.1.

It will be clear from the diagram that each of the paradigms shares a common set of features with its neighbours on the horizontal and vertical axes in terms of one of the two dimensions, but is differentiated on the other dimension.

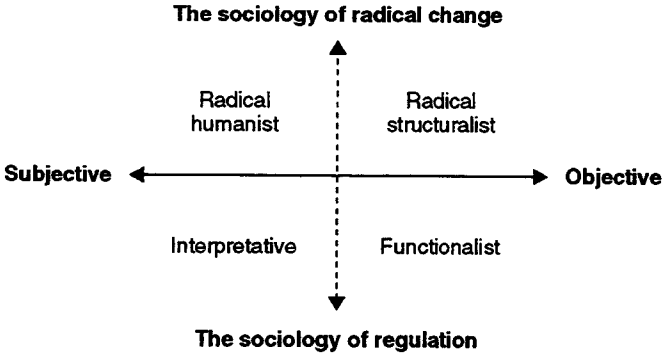


Figure 2.1: Four paradigms for the analysis of social theory
Adapted from Burrell and Morgan (1979: 22)

Each paradigm consists of different rival research programs (Lakatos, 1980; 1978). Within the functionalist paradigm, for example, organisational studies were conducted by Joan Woodward in the early 1950s.

Woodward introduced a new style of research in this field of scientific inquiry, characterised by quantitative descriptions and the statistical analysis of data. The focus of Woodward's research was to scrutinise the relation between the nature of production, patterns of organisation and business success. The main conclusion was that technical methods were the most important factor in determining the structure of an organisation and that they had an important influence upon human relationships within the firm. This study was the start of an important research programme known as the sociotechnical perspective on organisations, which adopted a mechanical equilibrium model as a basis of analysis. The relationship between technology and social organisation has since been studied by Burns and Stalker (1961), Walker and Guest (1952), Trist and Bamforth (1951), and many others (Burrel & Morgan, 1979).

A more recent research programme is the Markets and Hierarchies Perspective elaborated by Oliver Williamson (1979; 1975; 1970) and extended around the core model of Organisations Failure Framework (Williamson & Ouchi, 1981). This perspective views the organisation in a broader context of micro-economic theory integrated with organisation theory. This approach compares the costs of alternative organisational forms that are both capable to regulate and control the same activity. As such, this approach attempts to determine the size of the firm by taking into account the organisational costs or transaction costs (Grandori, 1987). The central key of this perspective is the assumption that under conditions of 'market failure' (i.e. high uncertainty, opportunism, and small numbers of competitors) prices fail to accurately convey the necessary information, and transactions become increasingly costly to execute. In this case, 'hierarchy' or formal organisations may be a superior mode for executing transactions. Hierarchy is a more efficient mode because the contracting parties have greater control and surveillance over uncertainties associated with transaction and over personal opportunism of the parties involved (Van de Ven & Joyce, 1981).

The objectivist approach to the study of organisations can be considered as still dominating actual research efforts. There is scarcely an organisational variable which has not been measured in some form and examined in search for 'significant' relationships. The main difference between the rival theories lies in the different influence they attribute to organisational variables in relation to organisational success.

## 2.1 The radical humanist paradigm

The radical humanist paradigm is defined by its concern with developing a theory of radical change from a subjectivist stand-point. Its approach has in common with the interpretative paradigm that it views the social world from a perspective which tends to be anti-positivist, voluntarist and ideographic. Its frame of reference however, is committed to a view of society which emphasises the importance of overthrowing the limitations of the existing social arrangements. A basic assumption underlying this paradigm is that the consciousness of man is dominated by ideological superstructures.

The radical humanist places the most emphasis on radical change, modes of domination, emancipation and deprivation. The intellectual foundations can be traced to the same source as that of the interpretative paradigm. It is derived from the German idealist tradition, particularly as expressed in the work of Kant and Hegel and reinterpreted in the writings of the young Marx.

Examples of other authors who's contributions support this paradigm are Habermas, Marcuse, Sartre, Illich, Castenada and Laing belong to this paradigm. The radical humanist paradigm is in essence based upon an inversion of the assumptions which define the functionalist paradigm. Writers dealing with organisations from this perspective have laid the basis for the so called anti-organisation theory (Burrell & Morgan, 1979: 32-33).

## 2. 2 The radical structuralist paradigm

The radical structuralist paradigm advocates a theory of radical change based upon an objectivist stand-point. Whereas the radical humanists base their perspective by focussing upon 'consciousness' as the basis for radical critique, the radical structuralists concentrate upon structural relationships within a realistic social world. There is a wide range of debate within the paradigm and different theorists stress the role of different social forces as a means of explaining social change. Whilst some focus upon the deep-seated internal contradictions, others focus upon the structure and analysis of power relationships.

Common to all theorists is the view that contemporary society is characterised by fundamental conflicts which generate radical change through political and economical crisis. The radical structuralist view has received little attention outside the realm of conflict theory. This paradigm has many significant implications for the study of organisations, but they have only been developed in the barest forms (Burrell & Morgan, 1979: 33-35).

## 2.3 The interpretative paradigm

Theorists located within the context of the interpretative paradigm see the world as an emergent social process which is created by the individualists concerned with that process. Social reality is merely regarded as a network of assumptions and intersubjectively shared meanings. The ontological status - Reality - of the social world is viewed as extremely questionable and problematic. Prominent publications for this domain were published by March, 1988; Weick, 1979; 1976; Eldridge and Crombie, 1974; Silverman 1970; Goffman, 1959; Hughes 1958. In contrast to Burrell and Morgan (1979: 189-201), who consider these contributions to be part of the functionalist organisational paradigm, we regard this perspective as belonging to the subjective approach to organisation theory due to its view about reality and research methodology. Reality is merely considered as a collective construction of meanings about objects and objective knowledge is considered to be a goal beyond reach. We also do not agree with Burrell and Morgan's conclusion that the exploration of this paradigm offers, a priori, few possibilities for the study of organisations due to the ontological problems inherent to this approach (Burrell & Morgan, 1979: 28-32). The interpretative paradigm has gained authority during the last decade because of the growing influence of the Action Frame of Reference and the Institutional Model.

### 2.3.1 The Action Frame of Reference

The Action Frame of Reference advocates, in analogy with E. Husserl, a 'back to people' approach. Putting individual actors into the focus of scientific inquiry reflects the conscious attempt of this perspective to purposely eliminate all prior abstractions to organisational life. This in order to avoid the distortions of reality involved in any reduction or abstraction (Silverman, 1970).

As action arises from meaning, it is necessary to understand social activities at the level of subjective meaning. The environment is considered to be *created* and activated by individual actors. As such, the environment is viewed as an output rather than an input. This *enacted* environment stands in strong contrast with the dominant organisation approach which sees the environment as autonomous and imposing itself upon organisations (Weick, 1979).

The Action Frame of Reference perspective, first articulated by Max Weber, draws back on contributions of Schutz, 1964; Merton, 1968 and Blumer, 1969; as well as on symbolic interactionism as elaborated by Mead, 1938 and Simmel (in Wolff, 1950). The common point of theorists working within the Action Frame of Reference Approach is their critical attacks on the functionalist approach to organisations. According to the Action Frame of Reference view, the systems approach - the dominant perspective since the 1960s - is considered to have severe logical difficulties in its assumption that organisations, seen as systems, have 'needs' or are 'self-regulating'. Attributing such characteristics to organisations, except as a heuristic device, is regarded by theorists, working within the Action Frame of Reference, as a reification. In other words, the mental construction 'system' is used as if it was a concrete thing (Silverman, 1970).

Within this context, Weick mentions the abundant use of metaphors in organisational theory: organisations have variously been portrayed as anarchies (Cohen & March, 1974), garbage cans (Cohen, March & Olsen, 1972) and data processing schedules (Borovits & Segev, 1977). According to Morgan (1989), this illustrates the fact that any realistic approach to organisational analysis must start from the premise that organisations can be many things at one and the same time. Metaphors in their compactness are powerful communication tools which should be used carefully, as they force people to select a very limited set of solutions and consider only a very limited set of possibilities to organise themselves (Weick, 1979).

Third important dimension of the Action Frame of Reference is its focus on the concept of uncertainty. In the classical information-processing approach (Galbraith, 1973; Lawrence & Lorsch 1967; Thompson, 1967; March & Simon, 1958), the degree of uncertainty is determined by the interaction between three distinct variables: task variability, complexity, and knowledge of cause-and-effects relationships linking organisational actions and environmental conditions to relevant outcomes. In the Action Frame of Reference, uncertainty is defined as a state of relation between a knowing subject and an environment and is not an inherent state of the environment itself (Declerck, Debourse & Navarre, 1983).

A consequence of previous hypotheses is that, according to this view, organisational structures and processes cannot be designed a priori.

This position stands in deep contrast to the basic assumptions of the contingency theory which had a major influence on mainstream research of the functionalist paradigm. To the Action Frame of Reference, organisational solutions are viewed as the result of trial and error procedures performed by interacting individuals. The debate on the issue of organisational design has often lead to a polarisation between the interpretative school and the functionalist school.

### 2.3.2 The Institutional model

The major concern of the Institutional Model is the question why organisations take the form they do. According to DiMaggio and Powell (1983), institutional isomorphism must be regarded as the main reason why organisations assume the form they have. Consistent with the institutional perspective, organisational design is not a rational process, but rather the outcome of external and internal organisational pressures (DiMaggio, 1988). Moreover, organisations in similar environments are expected to develop isomorphic patterns as they exchange professional personnel and face common exigencies such as governmental policies (Hall, 1991). Much of the Institutional Model research has been carried out in non-profit organisations with rather indeterminate technologies.

A second institutional approach postulated by Zucker, 1988; Scott, 1987; Meyer and Scott, 1983; puts forward the main assumption that organisational patterns and values are created by organisational actors and examines the various forms of interaction between these elements. In contrast to the prevailing functionalist theories of organisational environments that emphasise primarily the technical requirements of organisations, this approach stresses the role played by cultural elements such as symbols, cognitive systems and normative beliefs. In this view, in accordance with the interpretative paradigm, reality is merely a social construct.

The hypothesis on the organisation/environment relation based on the isomorphism principle underlies the Institutional Model as well as the contingency theory (Galbraith, 1973; Lawrence & Lorsch, 1967; Thompson, 1967) and the Population Ecology of Organisations (Hannan & Freeman, 1988; 1977). The contingency theory and the Population Ecology of Organisations draw on the functionalist paradigm where rational explanations and solutions are sought for occurring problems.

## 2.4 The functionalist paradigm

The functionalist paradigm is the dominant framework for the study of organisations. This approach is characterised by what has been defined as the objective-regulation approach to science and society. The functional approach seeks to provide rational explanations of social affairs. It is a perspective with a highly pragmatic orientation, concerned with understanding society/organisations such that it generates knowledge which can be put to use. It is often a problem-oriented approach, concerned with providing practical solutions to practical problems. Science, according to the functionalist's conceptual framework, is a tool for imposing order and regulation upon the social world. The functionalist paradigm is based upon an underlying norm of purposive rationality (Burrell & Morgan, 1979: 217-220).

In the following paragraphs, the development of the functionalist paradigm will be presented. An overview of the theories of organisation within the context of the functionalist paradigm can be and has been presented in different ways. (Bahlmann & Meesters, 1988; Dessler, 1986; Burrell & Morgan, 1979; Silverman, 1970). The main criteria of classification merely are: structure, behaviour, technology, decision-making, culture and environment.

### 2.4.1 Classical management theorists

The functionalist paradigm draws on the contributions of Classical management theorists. The main concern of these theorists was the search for universally valid managerial principles. Classical organisation theory encompasses the contributions of F.S. Taylor on scientific management, H. Fayol on administrative management, and M. Weber on the functioning of bureaucracies. According to Lawrence and Lorsch, classical writers usually started their reasoning by using examples of very primitive organisations, and thus deduced their so called 'principles' from a rather particular kind of organisation. Specific to this kind of organisation are four circumstantial structural attributes, namely

- limited and prescribed communication channels;
- detailed role descriptions;
- authoritarian leadership; and
- narrow span of control.

Classical management theorists presented their findings as 'universally valid principles', and had great influence on management of organisations. The conclusion of the Classical perspective that highly structured environments will lead to high performance has been found to be valid in research based on contingency theory only for those conditions characterised by low task uncertainty and stable environment (Lawrence & Lorsch, 1967). Thus, according to Lawrence and Lorsch, the Classical management theory can be considered to be a special case within the more general theoretical framework of the contingency theory. More in general, these findings have lead authors such as Joan Woodward to draw attention to the danger of teaching principles of administration as though it were scientific laws, when they are really little more than administrative expedients found to work well in certain circumstances, but never tested in any systematic way.

### 2.4.2 The Human relations schools

The Human relations schools of the 1930s have, in contrast with the Classical theory, received less explicit treatment in current literature. In exception to this are the recent studies on the Learning organisation which highlight several aspects which have been put forward by the Human relations schools, as will be discussed in 2.4.7 of this chapter. The Human relation theorists were concerned with the undesirable human consequences of modern industrial organisations. Labour-management conflict, worker apathy and boredom and endless struggles for power among managers were regarded as a large-scale waste of human resources. After the publication of the Hawthorne studies, the pace of human relations research accelerated.

Research on leadership styles, participative management and communication led to upgrading of the attention paid to the interpersonal competence of managers. One of the net effects of the human relations approach is the push of managers towards:

- securing the participation of lower echelons in solving the organisation's problems; and
- fostering more openness and trust among individuals and groups in organisations.

It is in this form that the human relations perspective has become part of the manager's everyday theory of organisation (Lawrence & Lorsch, 1967).

### 2.4.3 The Open system approach

In the mid-1950's, the Open system approach established itself as one of the most powerful perspectives of organisation theory. The organisation is viewed according to this approach as a unitary system with a common task. The social system is viewed as a positive force contributing to task achievement. Technology is seen as a force which imposes constraints upon possible modes of organisation. The important variable, therefore, is organisational design. The design of an appropriate mode of work organisation which satisfies the demands of technology and the needs of the employees is seen as the key to producing harmonious and effective organisations (Burrel & Morgan, 1979: 159). The system approach supports a Darwinistic hypothesis towards organisations: only those organisations that manage to adapt properly to their environment will survive. The recognition that dynamic and turbulent environments put a heavy claim on organisational flexibility defines a new kind of managerial problem, namely the question of which actions can/should be taken in order to realise an optimal fit between the internal and external environment of an organisation.

### 2.4.4 The contingency theory

New perspectives on organisations share a common starting-point, namely the theory of the organisation as an information-processing system. This theory was first postulated by March and Simon (1958) who reported on the results of an empirical study of ten organisations operating in a variety of environmental conditions. Since then it has been developed by the authors of the structural contingency theory into prescriptive models applicable to the design of business organisations (Galbraith, 1973; Lawrence and Lorsch, 1967; Thompson, 1967). These prescriptive models aim at determining the organisational design appropriate for dealing successfully with various economic and market conditions.

The contingency theory can be considered to be the synthesis of Open system theory and objectivist organisational analysis at all levels. Lawrence and Lorsch, for example, reviewed the studies of Burns and Stalker, Woodward, Chandler, and Leavitt. The main concern of this line of research is how organisations, or major parts of them, function and which determinant variables can be distinguished. Research methodology is based on multivariate analysis of empirical data (Le Moigne, 1993; Lawrence & Lorsch, 1967). These empirical studies represent the hard core of the objectivist-regulation perspective towards the functioning of organisations.

Lawrence and Lorsch's research reveals that effective organisations succeed in achieving a degree of differentiation and integration compatible with environmental demands and clearly indicate that a 'one best way to organise' does not exist (Lawrence & Lorsch, 1967). This set of related theories was dominating in the field of organisation theory during the 1960's and early 1970's. According to Donaldson (1985), the contingency theory nowadays has become part of 'normal science'.

### 2.4.5 Studies on bureaucratic dysfunctions

Another important line of research, focussed primarily on the study of bureaucratic dysfunctions, concentrates on the limitations of organisational designs as means to realise defined goals. This school of thought represented by Morin (1991); Blau & Meyer (1987); Crozier & Friedberg (1977); Blau (1974), Crozier (1963); Selznick (1957); Gouldner (1954) is mainly concerned with issues such as power and interest. Organisations are seen as pluralist political systems, arenas of conflicts between individuals and groups whose activities are oriented towards the achievement of their own personal goals. The difference between the studies on bureaucratic dysfunctions and the other theories developed within the confines of the functionalist paradigm is merely a matter of emphasis. Many current theories of organisation contain elements of this view, but in opposition to the studies on bureaucratic dysfunctions, power and conflict are regarded as isolated phenomena which do not define the nature of organisations.

### 2.4.6 Research on the relation organisational structure - environment

Important organisation theories of recent years have been perspectives that focused on macro-organisational issues (Grandori, 1987). Research has shifted away from the organisation of work at the work flow level to explaining and designing the entire firm's organisational structure and its interfirm organisation. According to these studies, the criteria to determine the degree of specialisation (or differentiation) of organisational units are to be derived from the strategy of the firm. Each strategy is defined as a plan of action to absorb and react appropriately in a certain context with a specific degree of uncertainty.

New research programmes which have concentrated on the organisation / environment issue are: the Organisational Failure Framework (Oliver Williamson, 1979; 1975; 1970), the Resource Dependence Perspective (Pfeffer & Salancik, 1978), the Population Ecology of Organisations (Carroll & Hannan, 1989; Carroll, 1988; Hannan & Freeman, 1977), the Organisation and Environment Research Program (Lawrence & Dyer, 1983; Lawrence, 1981) and Interorganisational Networks (Pennings, 1980; Van de Ven & Ferry, 1980; Aldrich, 1979).

### 2.4.7 The counter perspectives: Project Management, Total Quality Management, Reengineering and the Learning Organisation

Project Management, Total Quality Management, Reengineering and the Learning Organisation can be considered to be counter perspectives to those management studies that for decades concentrated on the relationship between strategy and structure. The role of strategy acting as an intermediary filter between the environment and the organisation has been the focus of mainstream research (Dodgson, 1993).

In spite of the dominance of the Open system approach and related perspectives, these counter perspectives focus their attention on the organisation and design of activities at the work flow level. An analysis of the main assumptions of these approaches reveals that they draw on thoughts presented by the Classical management theorists and the Human relation schools (Williams, 1993; Dill, 1992).

In the literature on Project Management, the classical management functions (planning, organisation, co-ordination, control and evaluation) are elaborated systematically at the work flow level. Project management techniques are seen to enhance organisational effectivity in periods of increasing insecurity due to a high degree of task complexity in a dynamic environment (Stinchcombe & Heimer 1985; Kerzner, 1982).

The common starting point of Total Quality Management, Reengineering and the Learning Organisation is the observation that firms need to enhance their performance to surmount the permanent changes in their competitive environments and the consequences of the economic recession (Hammer & Champy, 1993). The ultimate goal of these approaches is to facilitate the change process of organisations forced to continuously adapt themselves in an evolving world economy. Each approach develops a set of procedures and prescriptions which is considered as the most effective means to achieve more flexibility and higher efficiency. The Learning Organisation emphasises the importance of skills and staff-development in accordance with views presented earlier by the Human relation schools (Williams, 1993; Dill, 1992).

The Reengineering approach stresses the pivotal role of design and standardisation, while the Total Quality approach advances design, standardisation and performance measurement as devices to increase organisational performance. Thus, the two approaches consider internal coordination to play a central role in shaping the organisational outcome (Dodgson, 1993; Guha, Kettinger & Teng, 1993). The emphasis on job description, standardisation and internal organisation clearly links these views with the school of Classical management theorists.

Project Management gained attention since the 1950's, while Total Quality Management, Reengineering and the Learning Organisation are to be considered as recent trends in management literature. These new perspectives are clearly gaining attention in organisational research as well as management literature (Burgar, 1994; Hammer & Champy, 1993; Hodgetts, Lee & Luthans, 1993; Kim, 1993; Koffman & Senge, 1993; Senge, 1990; Bomers 1989). However, in contrast to the other research programmes discussed in this chapter, these contributions cannot yet be considered to be fully elaborated research programmes. Mainly because they don't offer, at this moment, alternative explanations about the success (or failure) of organisations, nor are studies available advancing and testing their conjectures in a systematic way. This new perspectives are at this moment more prescriptive than descriptive approaches. The usefulness of prescriptive theories versus descriptive theories for management of organisations is a debate with a long history going back to the publications of Classical management theorists. Management, with its bias for action, has a tendency to contemn descriptive theories, although prescriptive theories have often been more the problem than the solution in the field of management (Mintzberg, 1988; Simon; 1976).

After all, it must be admitted that no prescription works for all organisations, or as Mintzberg (1988: xviii) puts it: "even when a prescription seems effective, it requires sophisticated understanding of exactly what the context is, and how this prescription functions."

## 3 DEBATE ABOUT THE CONCEPTUAL FRAMEWORK IN RELATION TO ORGANISATIONAL RESEARCH

The concept of 'paradigm' was broadly adopted after Kuhn's *Structure of Scientific Revolutions,* originally published in 1962, by different scientific communities all over the world. As mentioned in Chapter 1, the question as to whether conceptual frameworks impede or not any scientific debate represents a major difference between Kuhn and Popper. Popper rejects the idea that conceptual frameworks are structural thresholds for scientific exchange since a critical discussion is, in his view, always possible (Popper, 1980). The use of the notion 'paradigmatic controversy' for all kinds of scientific debates, often in combination with the concept of incommensurability, clearly instigated the establishment of academic communities with an articulated sense of intellectual sectarianism. A negative consequence of this extensive use of the notion of 'paradigmatic incommensurability' is the fact that this view may lead to an extreme relativistic attitude and impede any scientific debate.

In accordance with Kuhn (1970), to Burrell and Morgan (1979), in the domain of organisational research, a switch of paradigm calls for a change in metatheoretical assumptions, something which, although possible, is not often done in practice. This reserve is related to the fact that the four paradigms are mutually exclusive. A switch of paradigm is considered by these authors to be a fundamental change in world view, comparable to a change of religious faith. In accordance with this view, George Ritzer (1980), states that 'multi-paradigm sciences' like organisation theory fulfil essentially political functions. The proponents of each paradigm are engaged in political efforts to gain dominance within the discipline as a means of imposing their own conceptions of reality on the practical events of social life.

Other authors believe that some inter-paradigmatic debate is possible, but recognise that the relations between paradigms are best described in terms of 'disinterested hostility' rather than 'debate' (Giddens, 1976). Attempts to achieve progress on paradigm mediation as elaborated by Hassard (1988) have, until now, not proven to be a major influence on mainstream research nor have they resolved the basic contradictions in a feasible manner for organisation research.

Attempts to integrate scientific theories have been presented by Astley and Van de Ven (1983) and Grandori (1987). These authors advocate the view that different perspectives offer quite different pictures of organisational phenomena without necessarily nullifying each other. In *Perspectives on Organisations,* Grandori (1987), has undertaken a contingency approach towards organisational perspectives in order to reconcile recent rival research programmes. Grandori assumes that within the functionalist paradigm the main models differ primarily because they have different domains of application. Accordingly, Grandori puts forward the hypothesis that rival theories do not have to falsify each other.

The main argument for this view is derived from a publication of Lakatos (1980) on scientific research programmes.

Since the beginning of the 1990's, a widespread acceptance that theories should be applied in combination rather than as competing theories seems to be emerging (Hall, 1991). From a fundamental research perspective, this point of view contradicts the advocated positivist approach towards science, since falsificationism has become the central feature of the functionalist epistemology. By reducing general theories into middle range theories, the necessity to test theories against one another only decreases temporally: the reformulation of general theories into middle range theories imposes further investigation of initial conditions and will ultimately evolve towards falsification attempts of advanced hypotheses.

As applied research seeks to develop and to implement solutions, rather than to test theories, it may be useful to combine various organisational perspectives into one conceptual blueprint.

## 4 CONCLUSIONS: EPISTEMOLOGICAL - METHODOLOGICAL IMPLICATIONS FOR THIS RESEARCH

As mentioned in the introduction of this investigation, at this moment higher education is facing three major challenges. There is a need for an increase in flexibility and efficiency while at the same time the quality of the educational offered must be at least maintained or, where possible enhanced.

The main purpose of this study is both to make a contribution to the research on management of institutions for higher education and to design an architecture for organisational and educational reforms in order to respond effectively to the challenges before-mentioned.

Consistent with studies on management and organisation, the theoretical part of this research aims to devise a design and an implementation strategy to carry out this transition.

These goals make theories developed within the radical humanist paradigm and the structuralist paradigm less appropriate since they study organisations in order to pursue desired radical changes and mostly impugn the implicit values of mainstream organisational research.

Consequently, the interpretative paradigm and the functionalist paradigm are the available paradigms for this research. Both paradigms presuppose that organisations are unitary systems directed towards the achievement of common goals.

The differences between these two paradigms, discussed at length in Chapter 1, are principally based on ontological, epistomological and methodological premisses, defined as the objectivist and the subjectivist approach to social sciences. The epistemological problem, as has been argued, is related to an extremely difficult metaphysical debate rooted in problems already formulated in antiquity, and far beyond our possibilities to solve.

But, in as much as the objectivist approach has offered the most elaborate attempt to solve the demarcation problem, which is the most fundamental problem of science, the objectivist approach is assumed to be the most reliable approach to science.

In order to overcome this fundamental discussion in a pragmatic way, it can be observed that since the late 1980's attempts were made to integrate various perspectives. Obviously, more researchers seek to combine the results of scientific inquiry of different schools of thought. In relation to the objectives of this research, a similar approach seems appropriate. In the next chapter, various perspectives developed within the functionalist and interpretative paradigm will be examined and integrated into one conceptual blueprint that will serve as a reference for the design and implementation strategies devised.

Relating our research intentions to the methodological requirements for scientific research, the conceived educational and organisational approaches will be implemented in three institutes for higher education. However, as initial conditions are never the same in different organisations the results of these cases must be considered as a mild form of test results. Thus, in each case will be examined whether the developed approaches prove to be appropriate for the institute involved, whether adjustments need to be made, and what those adjustments could be. This kind of testing, which can be seen as a piecemeal engineering approach, aims at a continuous improvement of the conceived design.

In conclusion, this study will result in theoretical frameworks on organisational research, organisational change and modular curriculum development in higher education. The framework will form the basis for the architecture of the educational and organisational development in each institute for higher professional education.

Three case studies will report on the usefulness of the developed approaches as a basis to implement the transition towards more flexible institutions for higher education. These cases provide a series of guide-lines for institutions who see themselves confronted with similar challenges and purposely attempt to enhance their flexibility. With hindsight to the methodological debate, these guide-lines are to be considered as heuristics.

# CHAPTER 3
# MANAGEMENT OF HIGHER EDUCATION
How to organise for more flexibility, quality and efficiency?


## ABSTRACT

This chapter examines which organisational parameters are important for carrying out educational adjustments intended to increase flexibility, quality and efficiency. The aim of this chapter is to create a lever for introducing reforms into the various educational organisations.

Towards this aim, seven research programmes dealing with management and organisation in higher education are examined with respect to whether they can be used to extract guide-lines for enhancing flexibility. The programmes scrutinised are:

- the basic structure of bureaucratic organisations;
- higher education as a professional organisation;
- higher education as a loosely coupled systems;
- higher education as a system with bureaucratic dysfunctions;
- institutes for higher education as ritualised symbolic systems;
- higher education as organised anarchy model;
- Total Quality Management; Reengineering and the Learning organisation in higher education.

Notwithstanding the differences between these research programmes, several conclusions contained in these perspectives are compatible and complementary to each other. The main conclusion is that structural reforms in higher education require a clear strategy and an unambiguous educational policy at the various levels of the institute. Moreover, there is a need for a tighter co-ordination between all actors in these organisations. The enhancement of educational quality requires systematic design, development and evaluation of the educational programme as a whole as well as of the separate courses that make up the programme. Finally, these organisation-wide developments can only be realised by projects that are firmly anchored in the institute. For structural projects, a top-down strategy which is carefully carried out is considered to be the most appropriate approach for obtaining durable results.


## 1 INTRODUCTION

Any radical educational reform must sooner or later have practical consequences for the organisation of the education institution involved. The organisational aspects are often neglected in research concerned with educational development in higher education and as a result of this, systematic approaches are hardly at hand (Perrenoud, 1993; Harris & Tessmer, 1990; Moen, 1990).

Institutions of higher education tend to be seen as beacons of stability or bastions of structural inertia, depending on whether one views them positively or negatively. General assessments of this kind are however, of little help when trying to implement educational reforms there.

In the following paragraphs, organisations of higher education will be examined from the vantage point of organisational theories. The purpose of this exercise is to extract those points of view generated by recent developments in organisational research that may be helpful in improving the flexibility of institutions for higher education.

At the end of this chapter, the advantages of a top-down approach are compared with those of a bottom-up approach. Although the research programmes examined only occasionally add fuel to this particular debate, no educational institute can, in practice, avoid this issue. Three innovation projects are analysed in an attempt to suggest a way of selecting between these approaches.

## 2 SEVEN RESEARCH PROGRAMMES CONCERNED WITH MANAGEMENT AND ORGANISATION OF HIGHER EDUCATION

### 2.1 The basic structure of bureaucratic organisations

Studies on bureaucratic organisations mainly draw back on M. Weber's influential contributions presented in *Wirtschaft und Gesellschaft* [Economy and Society] (1947), and *Gesammelte Aufsätze zur Sociology und Socialpolitik* [The Theory of Social and Economic Organisation] (1924). Weber saw the historical emergence of bureaucracies as a consequence of economic markets and centralized states where bureaucracies are primarily designed to provide services or products at a cost-efficient basis. A structure is bureaucratic to the extent that it relies on standardisation. Whereas, the engine of rationalisation has shifted from the competitive market place to the state and the professions (DiMaggio & Powell, 1983) a 'rational-legal bureaucracy' is a structure based on rational principles, backed by legal sanctions and operating in a legal framework.

The key features of the rational-legal bureaucracy include:

1. Equal treatment for all employees;
2. Reliance on expertise, skills and experience relevant to the position;
3. No extra-organisational prerogatives of the position;
4. Specific standards of work and output;
5. Extensive record keeping dealing with the work and the output;
6. Establishment and enforcement of rules and regulations that serve the interests of the organisation;
7. Recognition that rules and regulations bind managers as well as employees; thus employees can hold management to the terms of the employment contract.

The rational-legal form of bureaucracy reached its full form in the twentieth century. Nearly all large complex organisations in Western countries can be classified as bureaucracies, though their degree and form of bureaucracy vary (Perrow, 1986: 3). Efficiency and predictability are considered to be the major assets, under stable environmental conditions, of the bureaucratic organisation (Mintzberg, 1979).

Institutions for higher education can be considered as a particular kind of bureaucratic structure as described by Weber.

In the ensuing paragraphs, this study limits itself to the more recent research programmes that highlight different aspects that may impede innovation or adaptation to changing environmental conditions in institutions for higher education.

## 2.2 Higher education institutions as 'organisations in which the academics have control'

This view of higher education institutions may be regarded as the core of this research. In his book 'The Structuring of Organizations' (1979), Henry Mintzberg describes a type of organisation in which academically trained personnel enjoy a great deal of autonomy in discharging complex tasks. There is little co-ordination between the professionals and tasks are performed with limited supervision from higher hierarchical levels.

According to Mintzberg (1979), the following elements are crucial for professional bureaucracies:

1. they must be service oriented organisations;
2. they carry out complex but stable tasks;
3. there is a horizontal decentralisation of power;
4. there is a relative lack of co-ordination.

Theoretically speaking, Mintzberg's work can be situated within the confines of the functionalist paradigm. More precisely, Mintzberg's approach is in line with the research programme based on the contingency hypothesis, which argues a link between the degree of uncertainty in the environment and the structure of an organisation. The contingency theory is based on the precept that the efficiency of an organisation is determined by the degree to which its structure is able to cope with this environmental uncertainty (Miller 1986; Kotter & Lawrence, 1974; Galbraith, 1973; Lawrence & Lorsch, 1967). In agreement with the contingency hypothesis, the assumption is that such a professional structure functions at the best where the degree of environmental uncertainty is relatively small, and where there is relatively little pressure on financial resources (Grandori, 1987). Mintzberg (1979), was the first researcher to describe this type of organisation, the professional bureaucracy, as such (Grandori, 1987) which explains why Mintzberg (1989, 1979), is one of the most widely quoted authorities on management and organisation of this type of organisation.

According to Mintzberg (1989, 1979), professional organisations are the wrong places to introduce innovations because of the limited levels of co-ordination and co-operation within them. The professional bureaucracy is well suited for producing standard outputs but is inflexible in adapting its production to new standards. According to Mintzberg, the problems of innovation in the professional bureaucracy find their roots in convergent thinking; in the deductive reasoning of the professional who sees the specific situation in terms of the general concept. In the professional bureaucracy new problems are translated into familiar frames. Innovative problem solving, on the other hand, requires inductive reasoning; the induction of new general concepts or programmes from specific experiences. This kind of thinking is divergent and breaking away from old routines rather than perfecting existing ones. It contradicts everything the professional bureaucracy is designed to do.

Professional bureaucracies and the associations that control their procedures are conservative bodies, hesitant to change their well-established ways (Mintzberg, 1979: 374).

To Mintzberg (1979), fundamental change in such an organisation can only be realised by the slow process of changing the professionals, changing who can enter the profession, and changing what is learned in professional schools. Thereafter, change depends on how willing professionals are to upgrade their skills (Mintzberg, 1979: 378-379).

Other writers who support this assertion (Fields, 1989; Easterby-Smith, 1987), concern themselves mainly with the teacher and see the latter's role-oriented function as being an important source of inertia and resistance to reform in higher education. These authors assume that teachers adopt roles by imitation of or identification with other teachers, often when they themselves were students. Each teacher defines his or her task idiosyncratically without a systematic analysis of the situation. Change becomes almost impossible once a teacher has developed his or her own style. These findings are in line with the contention that there is a bias toward patterns of interaction that were successful in the past (Bloor & Dawson, 1994).

## 2.3 Institutes of higher education as loosely coupled systems

The research on loose coupling is one of the oldest research programmes on the organisation of higher education and draws on publications presented by Glassman (1973) and Weick (1976).

Theoretically, this line of research is located within the interpretative paradigm, where social reality is defined as a construction of assumptions and intersubjectively shared meanings. Theories within this paradigm put individual actors in the focus of scientific inquiry and purposely try to avoid all abstractions to organisational life. Therefore, these contributions are often characterised as process-oriented studies, opposed to the structure-oriented studies of the contingency theory (Miller 1986; Kotter & Lawrence, 1974; Galbraith, 1973; Lawrence & Lorsch, 1967).

The degree of coupling between persons, roles or units within organisations depends upon their common variables. If two elements have few variables in common, or if variables common to both are weak when compared to other variables influencing the elements, then they are relatively independent of each other and thus loosely coupled (Aldrich, 1979: 77).

Obviously, the idea of loose coupling has exerted an important influence on the contributions of Mintzberg, 1979; Meyer and Scott, 1983; and Meyer and Rowan, 1977. Mintzberg (1979), stresses the lack of co-ordination between professionals as the hallmark of professional organisations. Meyer and Scott (1983), and Meyer & Rowan (1977), consider the lack of well established co-ordination and structures to be symptomatic for the contradictions in the environment of these institutions. These assertions have both been advanced firstly by Glassmann (1973).

The relative absence of co-ordination efforts determines the crucial dimension of a loosely coupled system. Since co-ordination seeks to reduce the total amount of organisational cost, it appears that in a loosely coupled system a certain degree of efficiency is sacrificed. The advantages of such systems will be discussed in the following paragraphs.

### 2.3.1 Loose coupling and strategic differentiation

The main argument in favour of loose coupling as advanced by Glassman (1973: 84), 'is that loose coupling lowers the probability that the entire organisation will have to respond to little change in the environment that occurs. Therefore, loose coupling allows some portions of an organisation to remain unchanged'.

A second, related, function is that loosely coupled systems allow a better fit between an organisation and its environment, because relatively autonomous subsystems are capable of adapting independently to major aspects in the organisational environment without affecting the whole system.

Third, in loosely coupled systems where the identity and separateness of elements is preserved, the system potentially can retain a greater number of mutations and novel solutions than would be the case in a tightly coupled system.

Fourth, loosely coupled systems can localise their troubles in an isolated way, and prevent the trouble from spreading.

Fifth, there is more room available for self-determination by the actors in a loosely coupled system (Weick, 1976: 6-7).

Finally, Aldrich notes that the adaptive advantages of loosely coupled systems enables simple organisational forms to evolve into complex ones (Aldrich, 1979: 84).

### 2.3.2 The nature of change in loosely coupled systems

Loose coupling, according to Mintzberg (1979), has evolved as an important characteristic of institutes for higher education and is suspected to be at the origin of nearly all of the major problems encountered by these institutions such as lack of co-ordination, structural inertia and lack of collaboration. At first sight, Glassman (1973) and Weick (1982, 1976), appear to contradict Mintzberg's (1979), scepticism.

A closer look reveals that the conclusions of these authors are not necessarily contradictory, because the apparent opposition is merely due to a different angle of analysis. A loosely coupled system can update itself to minor changes, but when confronted with a major change, a loosely coupled system is unable to organise a coherent response by all the parts of the organisation. The structural flexibility of loosely coupled systems with respect to minor changes is, in this sense, compatible with structural inflexibility with respect to major changes.

The hypothesis could be advanced that loose coupling offers a range of advantages for professional service organisations when the primary activities within an organisation are basically independent from each other, when dysfunctions are restrainable within bounds, and when substantial unpredictable changes in the environment do not occur frequently.

However, Orton and Weick (1990: 219), stress that there is a critical need to examine the perspective of loose coupling as it applies to academic organisations in the sense that organisational structure is not only a function of core technology and environment but also of power. As Dill (1992), argues, the concept of loose coupling indirectly delegates increased authority and autonomy to individual faculty members, at the expense of collegial authority and collegial control. There is thus a genuine potential for a self-interested bias in academic models that present academic organisations as necessitating loosely coupled structures.

In this sense, loose coupling has been misrepresented and overgeneralised. To state that an organisation is a loosely coupled system is the beginning of a discussion, not the end. Important questions are: what elements are loosely coupled? What domains are they coupled on, etc...(Orton & Weick 1990: 219).

## 2.4 Higher education institutions as 'subjects of conflict between an organisation and its staff'

A fourth research programme is concerned with aspects of bureaucratic dysfunctions. This programme has been elaborated within the confines of what has been defined in Chapter 2 as the functionalist paradigm of research. Morin (1991), Blau and Meyer (1987), Perrow (1986), Crozier and Friedberg (1977), Blau (1974) and Crozier (1963) contend that the ambitions of individual members of a staff cannot be assumed to coincide naturally with the objectives of the organisation for which they work. These authors highlight the many forms of conflict between the interests of the organisation and those of the individual members of the staff.

In contrast to Mintzberg (1989, 1979), who assumes that all organisations strive to obtain optimal results, these authors suggest that the functioning of large organisations is comprehensively influenced by individual interests and by conflicts between the actors in an organisation. As a rule, rational management techniques pay little attention to these tensions, an omission which does not alter the fact that, precisely for this reason, many procedures aimed at achieving greater efficiency and effectiveness are undermined by them. The following illustration of tension between research and education serves as an example of such a conflict within an educational institution. Research tasks and educational tasks are both vitally important to universities and both should, therefore, be performed as well as possible. Research activities and the publication of their results are more important assets for an academic career than are teaching qualities. Therefore, if no active policy is pursued to reward an academic's didactic qualities, then, according to the theories on bureaucratic dysfunctions, it is inevitable that academics will devote more time and energy to their research, even if this is at the expense of their educational duties.

## 2.5 Higher education institutions as organisations 'concerned with keeping up appearances'

A fifth research programme, represented by the work of authors such as March (1988), Zucker (1988), Scott, (1987), Meyer, Scott and Deal, (1983); Weick (1982, 1976); Eldridge and Crombie (1974) and Silverman (1970), has been developed within the confines of the interpretative paradigm of research.

This group of researchers sees reality as being collectively constructed by all involved parties. Objective knowledge, i.e. knowledge which is not dependent upon a subject, is not possible according to this view. This relativist viewpoint has a number of consequences for the study of organisations. Organisations are mainly, seen as crystallised patterns of interaction in which symbolic solutions and rituals play a major role (Zucker, 1988; Scott, 1987; Meyer, Scott & Deal, 1983; Meyer & Rowan, 1983). Symbols and rituals should here be seen as the counterparts of rational and analysis-based instruments. This view of organisations stands in sharp contrast to, for instance, the view of investigators involved in the first research programme, who see organisations as systems which attempt to find rational solutions to technical and economic problems.

Meyer, Scott and Deal (1983), studied the importance of various issues in relation to institute-wide policy decisions in a number of educational institutions. Their work showed that the managers of institutions regarded 'the type of study material' and 'educational methods' as the least important issues. Much of the analytical and systematic methodology one would normally expect in an educational institution was clearly absent. Meyer, Scott and Deal (1983), concluded that institutions develop few policies in the areas which are of the greatest significance to their central goals and purposes.

According to these authors, such findings support their basic hypothesis that educational institutions are organisations in which many of the activities carried out may be regarded as symbolic solutions and rituals. Meyer, Scott and Deal (1983), see the inconsistent functioning of educational institutions as being a sort of strategy for surviving in an environment in which highly conflicting requirements are made. As a result of this ambivalence, those in higher hierarchical positions direct their attention towards the environment and accord internal activities a much lower priority. Thus, it may be said that issues important to educational activities are undervalued by the institute's managers. If one were to ask these researchers why educational policy is often at odds with educational research findings (Wijnen & Dochy, 1992), or why administrators in higher education have been listening too much to each other (Massy, 1990), they would almost certainly say that no systematic approach is possible under the circumstances outlined. This may be regarded as the principal obstacle for educational development and innovation.

## 2.6 Higher education institutions as 'organised anarchy'

The researchers contributing to this research programme also distance themselves from the hypothesis of rational decision-making. They see public sector institutions such as hospitals and universities rather as bastions of organised anarchy.

The 'organised anarchy' metaphor was introduced by Cohen, March and Olsen (1972), and has been further propagated and refined by March and Zur (1982), Enderud (1980), and Padgett (1980). Organisations in which organised anarchy prevails are characterised by ambivalent decision-making divorced from clearly defined and accepted objectives. On each issue, unpredictable shifts in allegiance are possible between the various employees.

One notable feature put forward by these researchers, is that such organisations only have a limited understanding of their own production processes. Notwithstanding the fact that these organisations do produce goods and services, the basic processes of production are not really understood by the actors in the organisation. Obviously, the organisation as a whole functions on the basis of trial and error, the lessons of the past and a pragmatic approach to whatever problems happen to be encountered.

Where universities are concerned, the research conducted within this programme has gone a step further with the identification of what March and Zur (1982), refer to as the 'garbage can model' of decision-making. Their work highlights a lack of systematic planning and organisation at all levels of tertiary education. In the type of environment they sketch reasoned educational policies or educational development are virtually impossible. This is also the weakness of this particular research programme: it identifies the many organisational shortcomings, but offers little help to those who would like to make structural changes to the existing situation.

## 2.7 Institutions for higher education as Learning organisations with an interest in Total Quality Management and Reengineering

The evolving perspectives on the Learning organisation, Total Quality Management and Reengineering direct their attention to internal organisational processes. In contrast to the research programmes discussed until now, organisational structure is no longer considered as the most important asset for success in the public as well as the commercial sector. These approaches advocate that the ability to learn, to design and to re-design are becoming more and more the core elements of successful organisations. Enhancement of quality and productivity is seen as the cure for many Western Companies. The common denominator of the three perspectives is the assumption that enhancement of quality is compatible with lowering production cost.

### 2.7.1 The Learning organisation

#### 2.7.1.1 Why Learning organisations?

Potter et al. (1994), advance interrelated sets of explanations why organisations need a more effective approach to training and learning. First, public and commercial organisations have to respond to more demanding markets and societies where the demand for products is changing faster and becoming more complex. Above this, organisations are moving towards smaller units with the nature of jobs constantly changing.

The second reason is that individual skills devaluate more quickly and there is thus a constant need to adjust the skills of the work force to accommodate new work techniques. In addition, jobs tend to become broader in scope and require more self-management and multidisciplinary skills.

Changing conditions have always been on the agenda of management and management studies, but the main assumption underlying the Learning organisation is that organisations need approaches to anticipate and to adapt adequately to *accelerating* rates of change. Learning organisations are characterised by their ability to anticipate change (European Commission, 1993b), and to act accordingly.

#### 2.7.1.2 What is a Learning organisation?

According to Garvin (1993: 79), a Learning organisation is 'an organisation skilled at creating, acquiring, and transferring knowledge, and that is modifying its behaviour to reflect new knowledge and insights'. The concept 'Learning organisation' gained attention after publication of Senge's book 'The Fifth Discipline' in 1990. From an organisation theory perspective, Argyris and Schön (1978), contribution on 'Organisational learning' can be seen as an influential reference for this perspective (Dodgson, 1993).

The Learning organisation implies the creation of a system where people at all levels of the organisation continually learn, and in which learning means both the acquisition of new knowledge and the application of this new knowledge. The Learning organisation, like the Total Quality Management approach, gives responsibilities to all workers. In this sense, both approaches can be seen as models for Total Human Resources Development (European Commission, 1993b).

### 2.7.2 Total Quality Management: Quality stems from design, not from control

#### 2.7.2.1 Definition

Where the 1980's was the decade of 'efficiency', the 1990's has been heralded as the decade of 'quality'. From the manufacturing industries to public services and the professions, pressure on resources, increases in competition and rising expectations of consumers have focused attention on the quality of organisational output. Tracing the route from the desired end products back through the design and production phases has highlighted the need for new organisational systems and approaches which are capable of consistently delivering goods and services to the level of customer expectations - and beyond.

The crux of the TQM approach is the reduction of variability which is seen as a source of mistakes and costs in all activities. Each activity involves a process with a variety of internal customers and according to TQM any process can be improved (Bowman, 1994). TQM clearly focuses on the control of processes rather than the control of employees.

During the past decade, in Europe, the Total Quality Management concept was introduced to higher education as the result of various initiatives of different governments emphasising their increasing concern with quality and quality assurance.

In this period institutions of higher education were encouraged to make the transition to mass higher education without being given corresponding increases in resources (Williams, 1993: 231).

### 2.7.2.2 Important parameters for management of quality in higher education

Reduction of variability can be achieved by managing the resources (people, equipment, methods) of an organisation. Bringing the process under control requires identification of the causes of variation. Management's job is to reduce the level of variation and to enlist the help of the employees to constantly improve system process. Essential here is control of the quality of the process - not the product - by reducing the causes of variability (Bowman, 1994).

The TQM perspective was elaborated for application from business and industry to academic institutions by Dill, 1992; Astin, 1991 and Ewell, 1988. Dill (1992: 66-76), groups Deming's fourteen principles for transformation[1] into five basic themes for the implementation of TQM in an academic context; namely student selection; academic programme and process design; customers' needs research and quality information systems.

*Student selection*

This dimension requires particular care in higher education. Student selection or assessment after secondary school is lacking in Europe, except in private institutions. Secondary schools aim at encouraging the individual development and not force young students into a common mould, so it is logical to assume that the abilities of incoming students will reflect different interests and capabilities (Williams, 1993). Since the most important factor influencing learning appears to be what the learner already knows (Ausubel, 1968), there is obviously a need for a good diagnosis, identification of capabilities and of potential for improvement of each entering student. This lack of student assessment is also the case in open learning systems such as Open universities. Open universities offer equal opportunities for all students regardless their prior education, although the arrangement of the courses seldom takes into account the academic experience of individual students (De Wolf, 1985).

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1 The fourteen principles for transformation advanced by Deming (1986: 23-24), are:
1. Create constancy of purpose for improvement of product and service.
2. Adopt the new philosophy. We are in a new economic age.
3. Cease dependence on inspection to achieve quality. Build in quality in the first place.
4. End the practice of rewarding business of the basis of price alone. Instead minimize total cost.
5. Improve constantly and forever every process.
6. Institute training on the job.
7. Institute leadership. The aim of supervision should be to help people to do a better job.
8. Drive out fear.
9. Break down barriers between departments.
10. Eliminate slogans, exhortations and targets for zero defects and new levels of productivity. Such exhortations only create adversarial relationships, as the bulk of the causes of low productivity belong to the system and thus lie beyond the power of the workforce.
11. Eliminate work quotas, management by objective, management by numerical goals.
12. Remove barriers that rob people of pride of workmanship.
13. Institute a vigorous programme of education and self-improvement for everyone.
14. Put everybody in the organisation to work to accomplish the transformation.

It is clear that the assessment of prior knowledge allows to reconcile two divergent objectives: a high success rate among students and an unrestricted access to the system for students (Dochy, 1992: 188).

*Academic programme / process design*

The TQM approach recommends preventing rather than detecting defects. Quality should be built into the process at such an early stage that defects in later stages are avoided (Burgar, 1994). Accordingly, quality improvement does not come from inspection but from design. In that design procedures are established to encourage the primary aim of continuous quality improvement and make it impossible for bad quality to go undetected.

The potential for university programme and process design is illustrated by the Harvard Business School. The programmatic content of the school's MBA degree including the content and the sequencing of each course component is co-operatively designed by the school faculty. The Harvard Business School's investment in programme and design has provided a competitive advantage over competing business schools. Beyond this advantage, the school successfully markets both its educational programmes and the underlying case study educational technology. Other leading business schools are now aggressively implementing quality management techniques in their academic programmes (Dill, 1992).

*Customers' needs research*

Astin (1991), defines educational quality in terms of an institution's capacity to develop the talents of the students it admits. The validity of educational outcomes is for Astin inevitably a value judgement derived from a subjective weighing of multiple perceptions: students, alumni, faculty, state and employers. Research on alumni and potential employers regarding the relevance of academic skills and knowledge for post-academic success are important inputs for the design of the programme and its courses.

*Quality information systems*

Research on quality systems in industry has shown that the highest results were produced by companies with extensive quality information systems. Analysis of assessment information technology in higher education reveals that many academic institutions require standardised test results from students for admission, but generally do not systematically connect information about the selected students, their test results during the educational process and their post-academic success. The TQM-perspective stresses the importance of this type of market research in relation to product design and development (Dill, 1992). Automated student monitoring systems as used in the Dutch system of higher education limit their use to the monitoring of test results of individual students during their study and provide, at a general level, information about the student population (Van der Kolk & Riksen, 1992). These systems and applications clearly have a control function in relation to student grants and financing of institution (Cramers & Besseling, 1994). The potential of information technology for design and product development is nowhere near being fully put into practice yet.

*Academic quality management: an agenda for research*

The active participation of all members of an organisation's productive workforce for the improvement of quality is a vital element of the TQM approach. Research on academic quality management is essential to obtain a better understanding of the benefits of different organisational arrangements. The question of how a better co-ordination can be realised is apparently an important issue. Dill (1992), suggests that case studies and comparative research about factors for improving the academic programme, the design and the involved processes are sorely needed.

### 2.7.3 Reengineering

#### 2.7.3.1 Definition

Like the Learning organisation, Reengineering rejects the Tayloristic industrial paradigm which considers the division of labour, economies of scale and tight hierarchical control as the keys to superior industrial performance.

Reengineering stands for the search for new models of organising work and is in this sense can be seen as starting over (Hammer & Champy, 1993). Until a few years ago, management studies were based on the assumption that to enhance quality, organisations had to accept higher costs and long production runs had to be set up in order to minimise cost per unit. Under the new paradigm of Reengineering, this view is obsolete. Successful organisations increase quality and push down costs. Small production lots are produced at the same cost per unit as long production runs. Flexible, multiple-skilled employees break across the barriers formerly defined by rigid job descriptions and functional departments (Hodgetts, Luthans & Lee, 1993). More concretely, Reengineering is a formal design method for identifying and achieving radical performance gains (Davidson, 1993).

TQM and Reengineering share a number of common themes. They both recognise the importance of processes, and both start with the need of customers. Both work backwards from these starting points. However, the two programmes differ fundamentally in relation to the nature of the change. Quality programmes work within the framework of a company's existing processes and seek to enhance them by means of continuous improvement.

Reengineering seeks breakthroughs, not by enhancing existing processes, but by discarding them and replacing them by entirely new ones. In consequence, Reengineering involves a different approach to change management from that needed by quality programmes (Hammer & Champy, 1993).

#### 2.7.3.2 Measurement of the Reengineering results

To determine the level of success of the Reengineering project, the performance of the new process must be measured and compared with the process replaced.

The distinguished dimensions of performance are:

- time;
- cost;
- number of defects;
- customer satisfaction;
- internal processes and organisational learning.

Reengineering has been adopted as a potential perspective for the innovation in higher education (Heterick, Jr, 1993; Penrod & Dolence, 1992). A number of case studies report on the benefit of the Reengineering approach in different institutes (Katz, 1993; Smallen, 1993). McClure (1993), arguing against this optimism, stresses the differences between institutes of higher education and industrial and business enterprises. Taking into consideration the limited number of experiences with the Reengineering of teaching and learning, McClure (1993), emphasis that there is more need for careful analysis that for premature conclusions.

## 2.8 Summary

To provide an overview of the research programmes and the issues discussed until now, the following Figure summarises the thinking associated with the recent schools of thought on management of institutions for higher education.

| **Research programme** | **Dominant dimension** | **Inertia/stability caused by** | **Direction possible** |
|---|---|---|---|
| 1 | Professionals | Lack of co-ordination | Yes |
| 2 | Lack of co-ordination between the different operations | Internal and external fragmentation | Yes |
| 3 | Conflict (institution vs individual actors) | Lack of agreement between actors | To a limited extent |
| 4 | Inconsistent environment | Lack of co-ordination between the different organisational levels | Yes |
| 5 | Inconsistent decision-making | Unpredictability | No |
| 6 Learning organisation | Knowledge and skills | | Yes |
| TQM | Work-processes | | Yes |
| Reengineering | Work-processes | | Yes |

Figure 3.1: Overview of the research programmes on organisational development in higher education

In summary, one can say that each of the programmes examined, identifies a different feature as having the greatest influence upon the functioning of an organisation. Five schools of thought offer their own explanations for the stability or inertia of educational institutions, and provide a different assessment of feasibility of directing such organisations in a planned way. The recent perspectives on TQM and Reengineering propose recipes for increasing productivity and quality. Their aim is to develop tools for change rather than to explain inertia or stability in organisations. The Learning organisation approach advocates a framework for systematic human development to remain on track with the changing requirements of competitive environments.

Obviously, planned organisational development is assumed to be possible by the majority of the research programmes. Hence, careful management of the external environment of institutes of higher education as well as tighter co-ordination is indicated to be necessary. The next paragraph will examine how this can be achieved.

## 3 RELEVANCE OF THE VARIOUS RESEARCH PROGRAMMES TO ENHANCED FLEXIBILITY, QUALITY AND EFFICIENCY IN HIGHER EDUCATION

Which guide-lines can be deduced from these research programmes for organisational and educational development towards more flexibility in the area of higher education?

### 3.1 Selection, training and co-ordination between professionals are stepping stones toward organisational reforms.

Selection of staff members and their professionalisation (Mintzberg, 1989, 1979), can be regarded as elements of personnel management. An institute which takes its educational task seriously should, when recruiting new personnel, pay sufficient attention to their didactic qualities. With new forms of education, for example distance education, and with curriculum innovation such as introducing modular design of curricula with the opportunity for individual self-study (De Wolf & Dochy, 1989), the tasks which teachers carry out should be substantially adjusted. In these situations, sufficient attention needs to be paid to further training of teachers (Weijenberg, 1992). The institute's potential to respond adequately to the changing needs of students and the labour market depends to a large extent on the flexibility of the teaching staff. For this purpose, professionalisation is an important design variable. Furthermore, modernisation and innovation require collective efforts. To realise the necessary co-operation and co-ordination between members of the teaching staff (Mintzberg, 1989; 1979), temporary teamwork in projects are a minimum. A systematic project management approach is the most obvious solution for this kind of actions (Wijnen, Rennes & Storm, 1990). In Chapter 5, a systematic approach for courseware development will be presented.

### 3.2 Minimal integration and co-ordination are a prerequisite for structural educational development

Institutions for higher education which aim to enhance their flexibility must achieve a tighter degree of integration. Structural responsiveness requires tightening, as loose coupling makes it difficult to achieve large-scale change (Weick, 1982: 387).

Important properties of loosely coupled systems and thus important objects of change are the taken for granted, the socialisation of newcomers and the dissemination of information.

### 3.2.1 A critical examination of the assumptions 'taken for granted'

Doubt produces change because confidence is the crucial linkage that holds a loosely coupled system together. Confidence, in loosely coupled systems, is maintained through avoidance, discretion and overlooking. When these beliefs are questioned within an organisation than the receptiveness of that organisation to change is high. More concretely, a conscious examination of how things are done, by whom and for what purpose is the most straightforward method to break with an established pattern. Consistent with these properties of loosely coupled systems, Dalin (1989), notes that in many schools teachers and management avoid discussing the various teaching activities of the institute openly. According to Dalin (1989), this explains why inadequacies often persist for a long time, and why some teachers feel completely isolated in their job.

### 3.2.2 Socialisation produces change

A second way to enhance integration in organisations is socialisation of newcomers and resocialisation of employees. Weick (1982), argues that intense formal socialisation leads to a tighter coupling. Newcomers who are socialised formally, collectively and sequentially in a closed manner are expected to be more tightly coupled and interchangeable with their peers than those who were socialised informally, individually in an open manner. Formality refers to the degree to which the setting of the training is set apart from the on-going work context and the degree to which the individual's role as a recruit is specified. Informal socialisation encourages loosely coupled systems because it increases the influence of each separate and specific group doing the socialising upon the individual. This creates a stronger tie within the groups than between different groups. Socialisation in higher education is rather informal and as such leads to loose coupling and little cohesion. To increase cohesion between all actors within these structures more formal forms of socialisation could be very useful.

### 3.2.3 Equalisation produces change

In loosely coupled organisations, few participants are involved in all dimensions of the organisation's operation. Change is impeded in loosely coupled systems when only a small number of staff members become more closely coupled with general issues and administrative analysis. This makes it harder for others to gain access to the decision-making process. To change a loosely coupled system, special attention must be paid to the relatively less informed and involved employees. Measures should be taken to enhance their participation in the exchange of information and the decision-making process. A vicious circle is created when only the regular participants at meetings are well enough informed to deal with the subjects on the agenda (Weick, 1982).

This implies that management at institutes of higher education should make an effort to increase the participation of teachers and other employees in meetings and in decision-making.

Task differentiation and equalisation which should lead to a better understanding of the entire organisation are elements that counteract looseness within institutes for higher education.

### 3.3 Conflicts can be reduced by defining and managing common interests

Morin (1991), Blau and Meyer (1987), Crozier and Friedberg (1977), Blau (1974) and Crozier (1963) are proponents of a research programme which has generated a number of conclusions for the organisation and management of reforms in institutions for higher education.

The major contribution of this research programme is that it makes clear that knowledge and educational tools are not sufficient for accomplishing meaningful development and change. There is also a need for an acceptable compromise for current and future conflicts of interest. In terms of the governmental policy and the social responsibility of higher education, educational institutes need now more than ever to turn themselves into flexible organisations. These matters have continuing permanent consequences for both the daily work and the careers of both teachers and staff involved in management tasks. Personnel management of higher education therefore needs to take an approach which is different from that which has been pursued until now. There is a need for a differentiation in the contributions of personnel to the goals of education. Didactic qualities, multi-functionality and active contribution to flexible educational programming deserve more importance than has been the case in the past. In this respect, the reward system of higher education is due for revision.

### 3.4 A systematic education policy requires a number of environmental choices to be made

The fifth research programme observed a number of inconsistencies in the functioning of educational organisations. These institutions attempt to meet the demands of a variety of environmental actors and display a behaviour that reflects the conflicting expectations of these actors. As a result of this managers tend to give very little attention to educational matters and in general, educational activities don't get the priority one might expect. The following recommendation is put forward to manage systematically educational reforms. To achieve a coherent education policy, there needs to be sufficient clarity and agreement at the institutional level regarding the mission, objectives and environmental actors whose wishes will be taken into account. Clearly, this requires that several choices be made. During the past years, the withdrawal of the government has resulted in a reduction of its role in many areas. In this context, it is very positive that institutes can, more than in the past, determine their own policy (*Ministerie van Onderwijs & Wetenschappen*, 1991b; *HOAK*, 1986; Neave, 1990).

In the Netherlands, institutions for higher education enjoy greater autonomy and decision-making power than they had in the past. Moreover, with the institutes now being funded on the basis of the number of students enrolled and their study progress (De Vries et al., 1990), the quality of education has even greater strategic importance than in the past.

Following these developments, it can be said that the current climate favours the more effective discharge of educational tasks.

## 3.5 Organisations where decisions are taken based on short-term considerations

The high degree of uncertainty and unpredictability inhibit any systematic approach. The premise of thinkers here is that decisions are made incrementally, where the reaction of environmental actors are observed after each step before taking any next step. This type of approach has also been described as 'The Science of Muddling Through', after the article of the same name by Lindblom (1959).

This research programme postulates little scope for a systematic approach to educational issues, since the basic premise is that the criteria for objective decision-making are lacking. It is perhaps a drawback of this school of thought that the research can have a consolidating effect on an undesirable situation, since moves towards change are considered virtually impossible.

## 3.6 Design and continuous training are the keys to quality and productivity

### 3.6.1 Institutes for higher education as Learning organisations

To transform institutes for higher education to become Learning organisations, they must become skilled at five main activities, namely:

1. Systematic problem solving: this activity relies heavily on the philosophy and methods of Total Quality Management. Its underlying ideas include:

- relying on the scientific method, rather than guess-work to diagnose problems;
- insisting on data, rather than assumptions, as a background for decision making;
- using simple statistical tools to organise data and draw inferences.

2. Experimentation: this activity involves the systematic searching for and testing of new knowledge. Using the scientific method is essential. The two main forms are:

- on-going programmes designed to produce incremental gains in knowledge;
- demonstration projects, for example the development of prototypes, which are usually larger and more complex than on-going experiments.

3. Learning from past experiences: institutes must review their successes and failures, assess them systematically, and record the lessons in a form that employees find open and accessible.

4. Learning from others: not all learning comes from reflection and self-analysis. Sometimes important insights can be gained by looking outside one's immediate environment to achieve a new perspective. 'Steal ideas shamelessly' could be the device here, benchmarking is the more academic term. The greatest benefits come from studying practices, the way the work gets done, rather than studying results.

5. Transferring knowledge: it is important that what is learned will be quickly and efficiently spread throughout the organisation (Garvin, 1993: 78-88).

### 3.6.2 The TQM-appraisal system

Quality management is not a programme; there is not 'one right way' of implementation. It is a customer-oriented and data focused philosophy and is based on management commitment, employee empowerment, quality analysis and strategic planning. A participative management approach should make TQM self-sustaining. To pin-point the differences with traditional management systems, the following diagram provides an overview of the different appraisal parameters:

| Criteria | Traditional management | Quality management |
|---|---|---|
| Guiding value | Attribution to the individual behaviour | Attribution to the system |
| Information basis | Conformance to the system | Working group participation continuous improvement of the system |
| Rating scale | Five or more scale categories | Three scale categories |
| Primary goals | Control documentation | Development, solving problems |
| Supervisory role | Supervisor as referee/judge | Supervisor as a coach, peers as colleagues, clients as customers |
| Leadership practices | Directional; evaluative | Facilitative coaching |
| Appraisal frequency | Occasional | Frequent |
| Degree of formality | High | Low |
| Reward practices | Individual oriented | Group oriented |

Figure 3.2: Comparing approaches to performance appraisal
Adapted from: Bowman, 1994: 132

As Figure 3.2 mentions, the TQM-approach clearly necessitates various changes in how work is organised and how workers are managed. Although the work of professionals in higher education has less in common with the Tayloristic approach, it can be observed that the appraisal system of many institutes is close to the pattern advocated by classical management. In conclusion, one can state that TQM puts forward a model for human resources management that is quite the opposite than the model advocated by the traditional Tayloristic approach (European Commission, 1993b).

### 3.6.3 Reengineering in higher education

According to Guha, Kettinger and Teng (1993), business Reengineering usually involves a fundamental analysis of the organisation and a re-design of organisational structure, job definitions, reward structures, business work flows, and in some cases, a re-evaluation of the organisational culture and philosophy.

The process to design and to carry out a re-design consist of the following stages:

- goal setting;
- documentation of the existing process;
- discovering pathologies;
- design of the new process;
- designing the Human Resources architecture;
- reorganising activities;
- performance measurement and linkage to quality improvement.

### 3.6.4 Summary

Figure 3.3 summarises the thinking associated with each programme and the guide-lines which can be derived from each school of thought for educational development in higher education.

| **Research programme** | **Dominant parameter** | **Inertia/stability caused by** | **Parameters for change** |
|---|---|---|---|
| 1 | Professionals | Lack of co-ordination | – Selection & training<br>– Temporary work structures |
| 2 | Lack of co-ordination between the different operations | Internal and external fragmentation | – Examination of the assumptions 'taken for granted'<br>– Socialisation and equalisation |
| 3 | Conflict (institution vs. individual actors) | | – Identification of common goals<br>– Personnell policy<br>– Reward system reflecting the goals of the organisation |
| 4 | Inconsistent environment | Lack of co-ordination/ different organisational levels | – Distinct strategic choices<br>– Management involvement with internal operations<br>– Systematic development of an educational policy |
| 5 | Inconsistent decision making | Unpredictability | |
| 6 Learning organisation | | | – Systematic problem solving<br>– Experimentation<br>– Transferring knowledge |
| TQM | | | – Continuous improvement by design<br>Design-cycle:<br>– problem definition<br>– design<br>– implementation & evaluation |
| Reengineering | | | – Starting over: total Redesign<br>Design-cycle: idem TQM |

Figure 3.3: Parameters for organisational reform in higher education
Adapted from: Van Meel (1993a: 259)

The following conclusions can be deduced from these perspectives. First, the transition toward more flexibility in higher education requires a clear strategic vision and a distinct educational policy to define the line of action for all participants in the educational process. Second, selection and training are important tools to improve the didactic performance of an institute. Socialisation is an important design-parameter for professional organisations to enhance internal cohesion. Third, isolation of individual teachers, as well as a permanent assignment of administrative tasks to a few teachers must be avoided. In general, the importance of human resources management has been frequently stressed and requires more attention than it usually gets in these organisations. Finally, quality in higher education is chiefly the result of a correct customer orientation, the design of the curriculum and course-material and its evaluation.

## 4 THE IMPLEMENTATION OF EDUCATIONAL REFORMS: TOP-DOWN OR BOTTOM-UP?

The top-down or bottom-up question is a variation on the old chicken or egg riddle: who should set the process of innovation in motion?

The bottom-up approach is often justified by asserting that educational reforms are, in the final analysis, implemented by individual teachers. Proponents of the approach therefore put a great deal of energy into providing teachers with knowledge and skills in the hope that new practices will diffuse from them throughout the teaching profession. Experience has shown, however, that this rarely happens. Teachers schooled in new ideas seldom succeed in converting colleagues, but often find themselves confronted by a sea of indifference and organisational barriers in which moves towards substantial developments are quickly lost (Jones & Lewis, 1991). Or as Chizmar (1994: 187), puts it:
"a single faculty member who adopts a new pedagogy will change the culture in his or her classroom, but is unlikely to change the organisation's culture". Educational development requires organisational development which is, by definition, a collective change. Such collective changes are brought about in the field by co-operation between various individuals. For such co-operation to be possible, Jones and Lewis (1991), argue, a structural approach is required.

This contention is broadly supported by the work of Kozma (1985), and Davis, Strand, Alexander & Hussain (1982). These writers report that organisational consolidation and administrative support are critical variables in the formula determining the success of reform processes in higher education.

The emergent perspectives on Reengineering, Total Quality Management and the Learning organisation highlight the importance of clear objectives, design, systematic problem solving and customer orientation. The enhancement of performance is seen as the result of organisation-wide development, thus more in line with the top-down approach.

As a practical illustration of the issues at work in the top-down/bottom-up quandary, the following Figure compares three types of innovation projects on a number of dimensions.

The assumption underlying this overview is that the various hierarchical layers of an educational institution, namely students, infrastructure, government and labour market, can be treated as structural dimensions of that institution. For each dimension, an estimation of the potential impact of each type of project is indicated.

| **Organisational dimensions** | **Type of innovation** | | |
|---|---|---|---|
| **Actors** | **Modularisation** | **Educational methods** | **Student tracking system** |
| Board of governors | x | | x |
| Sector management | x | | x |
| Director of study programme | x | x | x |
| Department co-ordinator | x | x | x |
| Teacher | x | x | x |
| Instructional designer | x | x | x |
| | | | |
| **Students** | | | |
| Entry criteria | x | | x |
| Specialisations | possibly | | |
| Individual study route | possibly | | x |
| Study skills | possibly | x | possibly |
| Exemption policy | x | | x |
| | | | |
| **Infrastructure** | | | |
| Financial consequences | x | possibly | x |
| Information technology | possibly | possibly | x |
| Personnel policy | x | x | |
| Material facilities | x | possibly | x |
| | | | |
| **Environment** | | | |
| Government | x | | x |
| Labour market | possibly | | x |
| Specific target groups | possibly | | x |

Figure 3.4: Organisational parameters of educational development (x: important parameter). Adapted from: Van Meel (1993a: 263)

Modularisation involves the curriculum being divided into standard units. Such a system has two advantages: first, it is easier to plan and to spread the study load second, it provides the opportunity to produce modules as self-study units for students.

Features of such projects are that:

1. all layers of an organisation are involved;
2. there are a number of consequences for students;
3. there are important consequences for an institution's infrastructure;
4. modularisation projects should be described in an institution's development plan.

A project involving the introduction of alternative educational methods presents a very different profile. While relatively simple compared with the modularisation of the curriculum, a project of this kind does nevertheless necessitate structural measures if the intention is for all teachers to be able to use a given repertoire of educational methods; under such circumstances the professionalisation of the teaching staff becomes a requirement. In order that the effects of this professionalisation are not short-lived, the institution will also need a personnel policy aimed at encouraging extra efforts in this direction. In the absence of such a policy, any reform is subject to individual preferences and ad hoc decision-making, and therefore runs the risk of running aground in the manner Jones and Lewis (1991), describe.

A project involving the introduction of a student tracking system has important consequences for:

1. the institution's board of governors (the board can consider making an application for additional government finance (*Ministerie van Onderwijs en Wetenschappen, HOOP*, 1990);
2. all actors who are involved in the provision of education;
3. the students;
4. the infrastructure of the educational institution, including the allocation of financial resources.

For these three types of projects, a top-down approach has the advantages of enabling the necessary provisions to be made and of offering a degree of surety regarding the continuity of the project.

A number of institutions for higher professional education have lately taken a top-down approach based on the relay principle. This involves certain decisions being made by the board of governors in consultation with the sector management, and the details of implementation then being worked out by the sector management and the study programme director(s). Thereafter, each study programme director sits down with the department co-ordinators and teachers to further refine the plans developed. With such an approach, decisions are made at appropriate levels and implemented in the knowledge that they have the support of the management (*Hogeschool 's-Hertogenbosch* 1992; *Hogeschool Eindhoven*, 1987).

The initiative for a given reform can be provided by any of the parties involved in the educational process. However, when it comes to organising innovations for which structural provisions are necessary, it may be concluded that a top-down approach provides a number of guarantees which a bottom-up approach cannot.

## 5 CONCLUSIONS

This chapter has attempted to answer two questions namely:
- How should institutes for higher education be organised to match the actual and future demands and opportunities?
- Should educational reforms be introduced via a top-down or a bottom-up strategy?

This chapter considers ways of improving educational practice which is constantly confronted with the various and changing demands of our society towards higher education. The basic premise used is that educational reform goes hand-in-hand with organisational development. More specifically, ways of introducing reforms into the fabric of the various educational organisations need to be found.
With respect to the first question the various programmes have been examined enabling the following conclusions to be drawn.

1. An effective organisation and education policy can only be developed when an institution's general policy reflects a high degree of consistency with the main actors in its environment. Institutes for higher education must therefore rationalise their interaction with environmental actors and make the most appropriate choices. A clear strategic position will result in administrators and managers paying more attention to educational matters of strategic importance as soon as there is less need for smoke and mirrors.

2. The best instruments for influencing the performance of an academic staff for promoting continuous improvements are recruitment policies, socialisation and professionalisation. With respect to higher education, recruitment policies should pay sufficient attention to the didactic capacities of teachers. Further, socialisation should enhance cohesion between teachers. Within this context, the assignment of administrative tasks must be directed to all teachers. Finally, professionalisation should focus on systematic problem solving, experimentation and the transfer of knowledge. The majority of research points out that co-ordination must be tightened to realise important changes. The institution of temporary work alliances are a minimum condition to realise the necessary co-operation for innovation.

3. There are always conflicts of interest within an institution which may well be heightened by the processes of educational reform and organisational development. In practice, each significant change of direction will present an institution's managers with certain alternatives so that the avoidance and resolution of conflicts will always be important. If internal conflicts are ignored, useful educational instruments become the subjects of conflict without the actual problems being addressed. In addition, the reward system must reflect the educational policy to create sufficient compliance with educational goals of the institute.

4. Customer-orientation, design and evaluation are at the heart of Total Quality Management in education. It has been stressed that the enhancement of quality does not necessarily increase the costs.

Professionalisation in this direction must involve training for systematic problem-solving, experimentation, and the transfer of knowledge in relation to curriculum and course development. The majority of perspectives considered put forward human resources management as a key to organisational and educational development.

With respect to whether educational reforms should be introduced by means of a top-down or a bottom-up strategy, the answer depends very much on the nature of the reform. In this chapter has been argued that a top-down approach is the most appropriate for innovation projects which:

- involve all hierarchical layers of the organisation;
- have important consequences for students;
- have a substantial influence on the infrastructure of the institution; and
- have the potential to influence the institution's relationship with the government and/or the labour market.

Such an approach also offers the greatest degree of certainty in relation to less complex projects for which structural provisions are required. A top-down approach based on the relay principle helps to increase the involvement of the staff at large. This involves the incremental execution of the institution's policies, with all interested parties being consulted at each stage. In this sense, an attempt has been made to combine the benefits of a top-down approach with those of a bottom-up approach.

# CHAPTER 4
# MODULARISATION AND FLEXIBILISATION

ABSTRACT

This chapter highlights the possibilities which modularisation offers to enhance the flexibility of institutes for higher professional education. The different objectives of modularisation are discussed as well as the various stages of modular curriculum development.

An approach to implement a modularisation programme is presented on the basis of the main conclusions concerning organisational change in higher education. The proposed approach is based on publications in the fields of educational science, organisation theory and project management. The major sources with respect to the development of individual modules are internal publications and expertise developed by the Open university of the Netherlands.

Important conclusions are that modularisation must always be 'custom made' and that the ambitions and possibilities of the institutes should be taken as the starting point for the process. A top-down approach for policy-making is proposed because educational innovation must be anchored firmly and structurally in the organisation. Dividing the modularisation programme into various implementation stages makes it possible to manage the process in an effective manner.

The principal actors in the setting up of a modularisation programme are the Board of Governors, the directors of the study programmes, the department co-ordinators and the teachers.

## 1 INTRODUCTION

Modularisation and related concepts have a relatively long history. Modular instruction was first adopted by Harvard University in 1869 (Dochy, 1992). In Europe, the first experiences with modular education were initiated by B. Schwartz in the Centre for Economic and Social Cooperation in Nancy, France. In 1971, Schwartz designed a credit system that made it possible for a large number of unemployed miners to obtain a degree which offered them new opportunities to find an employment in a different area of the labour market (Kuperholc, Mor & Piettre, 1993).

In the educational literature, the trend towards modularisation was initiated by various schools of thought. Linking up with the tradition of the cognitive development theories (Piaget, Landa, Bruner), Burns in 1971 advanced a number of hypotheses about individual instruction. Empirical data based on the observation of students had led to the assumption that students could achieve optimum learning results if they could individually determine their learning objectives, learning pace and relevant educational materials. It is considered possible to set up individual instruction in classroom situations by means of modules.

In Burns' view, modules may take a variety of forms, but can in general be described as organised learning periods of one to three hours. In this context, flexibilisation means transforming the traditional educational system into a study system which focuses on the student's learning process and meets his/her individual needs to the greatest possible extent. This approach elaborates on the insights resulting from research in the field of cognitive developmental psychology. From a theoretical point of view, the insights as presented by Burns (1971) are diametrically opposed to the ideas of the behaviourist schools. This schools are centred around Skinner's publications of 1954 and 1965 and have in practice resulted in programmed instruction. Quite apart from the theoretical controversy between the behaviourist and the cognitive schools, the distinction between learning theory and instructional method introduced by Skinner has presently been acknowledged as a general principle. This principle was initially further developed by authors with a moderately behaviourist view such as Gagné (1971) or a more cognitive view such as Bruner (1960, 1966).

From a totally different perspective, modularisation has increasingly been perceived as a means to diminish the operational costs of institutes by decreasing the hours of face-to-face teaching. Since the beginning of the 1990's, a direct connection was established in the Netherlands between financing of higher professional education and the success rate of the students. Partly due to this, institutes began looking for new educational techniques which make it possible to increase the study pace while keeping up or improving the quality of the educational programme. Modularisation is considered a possibility in this context as well.

Finally, there is a growing interest in modularisation because it is considered to be an opportunity to organise existing study systems in a more flexible way. So, making it possible to fulfil the needs of particular groups for updating and upgrading their knowledge without incurring enormous additional investments. The term 'flexibilisation' is interpreted by some institutes as searching for ways to make education more accessible to the wider public. This could be achieved, for instance, by setting up an educational organisation which can be attuned to students who differ greatly in their prior knowledge or previous training, or which can easily be adapted to new requirements of the labour market.

Against the backgrounds just outlined above, the possibilities of modularisation from the perspectives of the institutes, the teachers and the students are examined. The preconditions and consequences which are inextricably linked with modularisation will also be examined. This analysis will serve as a reference for designing modularisation procedures for particular institutes. Control related aspects will be dealt with in particular in the next chapter on project management.

## 2 DEFINITIONS

Originally, a module used to be defined as a unit of study. One of the most frequently quoted definitions is that of Goldschmid & Goldschmid (1973: 16) who stated that a module is a 'self-contained, independent unit of planned series of learning activities designed to help students accomplish certain well-defined objectives', to which the authors add that modules are, as a rule, study packages aimed at self-study.

Levine, Daeschner & Emery (1977: 213) propose the following definition: "An instructional module is a unit of instructional materials which contains objectives describing learner behaviour in clearly observable form, instructional material and a post-test clearly related to the objectives". Van Eijl, Cappetti, Merkx & Van Muyden (1988) have added the characteristics 'course requirements' and 'self-assessment test' to this definition. Summarizing, the essential aspects of a module as a unit of study are:

- a self-contained unit in the curriculum (identifiable and recognisable);
- which constitutes some coherent whole of course requirements, learning objectives and contents;
- with a well-defined study load and duration, and which contains the teaching/learning situations and testing material aimed at acquiring and processing the objectives and contents of the module.

In addition to the content and the set-up of a module, the duration of study is often considered an important aspect. The second definition of modular education places particular emphasis on this planning dimension of a module. From this point of view, modularisation is a term which indicates that the curriculum has been divided into a number of sections with a certain standard duration. An assumed fifteen-week term (containing 600 study hours) may be organised in various ways:

- 4 parallel modules of 150 hours, to be taken simultaneously;
- 2 double modules of 300 hours, to be taken successively;
- 2 modules of 75 hours, and 3 of 150 hours;
- 1 module of 600 hours;
- etc...

It should be noted that successive programming of parts of the curriculum is the basic principle of block education (Wijnen, 1973; De Bruyne, 1976; Cappetti, 1985). Because modularisation in this sense, is restricted to the division of the curriculum into units with a particular study load, a number of different educational methods can be imagined here too. In such a study system, self-study may not be performed at all or only to a very limited extent while face-to-face teaching may predominate.

## 3 MODULAR EDUCATION

### 3.1 Objectives of modular education

Modular education can pursue a wide range of objectives. Summarizing an analysis of the literature in this field (Van Meel, 1993b; Hover, 1990; Van den Berg, Reymerink & Oosting, 1990; Van Eijl et al. 1988; De Wolf & Dochy, 1989; Van Opstal, 1979), the potential advantages of modular education can be classified as follows:

Government policy objectives:

- increasing the accessibility of higher education by means of educational programmes which permit a differentiated intake of students;
- an overall improvement in success rate and cost control by reducing the hours of face-to-face teaching;

- a better fine tuning between the objectives of an educational programme and the needs of the labour market.

Institute-related organisational objectives:
- offering a transparent study programme which makes it possible to transfer students and/or course material from one institute to another;
- elaboration of a framework for the international recognition of degrees and an exemptions policy to enhance the exchange of students[1];
- designing additional methods for offering education to specific target groups who need additional training;
- providing a possible basis for contract education;
- making education less teacher-dependent, resulting in lower costs and more room for new tasks;
- adjusting educational programmes in a flexible way by simply replacing modules;
- setting up a well-defined exemptions policy;
- allowing modular certification after passing one or more examinations;
- providing a better insight into the planning of the educational process by means of a fixed duration and a normative study load;
- enabling individual students to make up deficiencies in their previous education (in the case of an intake of students with differences in their previous training).

Educational objectives:
- spreading the study load better;
- increasing the student's freedom of choice with regard to:
  - contents;
  - level;
  - pace;
- making it possible to integrate subjects in the form of thematic or problem-based learning.

Modularisation may also entail a number of disadvantages. Some arguments against modularisation are that:

- within an entirely modularised system, social aspects do not receive sufficient attention;
- young students, in particular, lack the discipline necessary for the high degree of independence required by a modular curriculum (Van den Berg, Reymerink & Oosting, 1990: 71);
- the transition from passively attending lectures to active studying may be problematic for some students;
- developing modules is a time-consuming activity for teachers;

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1 Note: Modularisation can be seen as a further elaboration of the European Community Course Credit Transfer System. The ECTS involves participating departments allocating credits to their courses on the basis of the total study time or workload a student is expected to devote to each course. Modularity is not a prerequisite for credit transfer, but can make it easier. It is noticeable that countries moving towards credit transfer systems also begin to discuss modularity (Evaluation of the pilot phase of the European Community Course Credit Transfer System, European Commission, 1993a).

- the work of teachers undergoes considerable changes to which not all teachers are necessarily favourable, nor equipped;
- the administration of study progress is more time-consuming in a modular system (Goldschmid & Goldschmid, 1973: 29-30).

The fact that modularisation is clearly open to many different interpretations has inevitably led to misunderstandings in the past. Without exaggeration, one might say that modularisation is an emotionally charged concept in a number of institutes. Rather than being an unambiguous formula, modularisation is a means to achieve a variety of objectives in divergent institutes. If a particular institute opts for modularisation, the objectives to be pursued must be attainable as a whole. According to Hover (1990), the chance that this principle will be betrayed is considerable. For instance, meeting the students' wishes is not the same as meeting the demands of the labour market; making education accessible to specific target groups does not by definition imply that the costs per student will decrease. In more general terms, this means that objectives relating to flexibility may be in conflict with objectives aiming at improving efficiency.

## 3.2 Types of modular education

Modules can be applied both in a traditional educational environment and in an individual learning environment as referred to by Burns (1971). On the basis of various insights derived from learning theory, it is possible to design a number of different study systems in which modularisation may play a role. In this sense, a distinction should be made between learning theory, curriculum design principles and educational methods. The discussion on educational methods and modularisation evidently camouflages a debate with regard to learning theory, a few important opponents of which were already mentioned in the introduction.

The most remarkable type of modular education is presented by individual study systems in the form of self-study packages. In the Netherlands, the Open university has a leading position in the field of developing individual study packages for higher education. In this system, modules of usually 100 study hours are delivered in a teacher extensive way primarily via printed and multi-media applications.

Hybrid forms of education in which self-study is alternated with face-to-face teaching are also conceivable. The starting point is that a well-balanced curriculum consists of a mix of educational methods, in which face-to-face teaching, group work, the use of media and self-study have been integrated into a coherent educational whole. In this sense, the contrast between a traditional and a modular learning environment need not always be as fundamental as suggested by Dochy, Wagemans & De Wolf (1989: 13-14). Between entirely individualised self-study systems and traditional face-to-face teaching curricula, many mixed forms are possible. A number of learning environments will be discussed below. Particular attention will be paid to the role which modularisation might play there.

## 3.3 Modular education in relation to distance education

Modules for self-study offer a number of possibilities which distance education often takes advantage of.

In order to make the comparison between different educational systems more transparent, we will first give a brief description of the basic characteristics of distance education. Distance education is best described as education which is not tied to a particular place or time. The teacher plays a limited role and usually has a specific function in relation to the printed study material.

Moreover, distance education differs essentially from traditional education with respect to the learning experience of the students, the nature of the study material and the administrative structure of the educational institute.
Holmberg (1981) distinguishes the following characteristic features of distance education:

- the study materials are designed in a systematic way with clearly formulated learning objectives; students are given the opportunity to evaluate their own performance individually or through feedback from tutors;
- the curriculum has a modular structure; flexibility is provided by means of an exemptions policy;
- a wide range of media is normally used, based on the learning needs of the students.

Furthermore, distance education is based to a large extent on learning theory principles concerning individual instruction and is aimed at students who are either unable or unwilling to attend a traditional programme for economic, geographical or social reasons (Kaye, 1989).

It may be clear that experience acquired within distance education may benefit traditional education as well. A systematically designed curriculum with a transparent exemptions policy or the possibility of obtaining module certificates are just a few elements which may increase the decisiveness and the student-orientedness of an institute. Inspired by its specific mission, distance education has concentrated on the educational aspects of individual self-study. This is reflected, among other things, by the expertise acquired in the field of designing and developing study materials. Because traditional educational institutes increasingly decide to offer particular units of study as modules for self-study, this educational specialisation of distance education is gaining importance.

## 4 Types of modular education at the institutional level

Institutes can be classified in different categories according to whether modularisation is used to standardize the programme in a traditional grade system, or whether parts of the curriculum are offered as modular units designed to stimulate independent learning[2].

At the macro-level, institutions for higher education can be characterised by means of the following questions: how is the programme offered? How is the time schedule organised? At what location(s) is the programme being carried out and what function - if any - does modularisation have within this framework?

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2 Note: Independent learning is possible by means of courseware packages. Courseware packages include self contained learning materials, irrespective of the medium of transmission (print, audio-visual, computer).

These questions will be discussed in relation to three different educational systems:

- the traditional grade system;
- the dual mode system which constitutes a transition between a traditional and a system for independent learning; and
- the distance mode which is designed for independent learning.

At the meso-level, the possibilities offered by modularisation will be suggested for each of the three different types of educational systems. Important parameters are the degree of freedom with regard to the learning path in degree programmes, the possibility of offering individual courses and the use of new media and information technology.

At the micro-level, the student's freedom of choice is discussed. Those dimensions which determine this degree of freedom in the three systems will be compared.

As mentioned previously, institutions for higher education can be characterised at the macro-level along four dimensions. In practice however, various hybrid forms exist between the traditional grade system and the individualised modular system. On the basis of the characteristics questions it is possible to make a preliminary diagnosis of an existing educational institute and to roughly indicate in which direction the institute wishes to develop a particular modularisation project.

Figure 4.1 gives an overview of these three types of institutes with respect to modular education:

| Form | Face-to-face teaching | | Dual mode: Face-to-face teaching and courseware package(s) | | | Courseware package(s) | | | |
|---|---|---|---|---|---|---|---|---|---|
| Location | Classroom teaching | | – Classroom teaching<br>– Courseware packages<br>– Institute-related:<br>– IT applications<br>– Group work<br>– To be selected by the student | | | – Modules<br>– Institute-related:<br>– Information techniques<br>– Group work<br>– To be selected by the student | | | |
| Organisation over time | Traditio-nal grade system | Semester system | Traditio-nal grade system | Semester system | Block system | Traditio-nal grade system | Semester system | Block system | Modular system |
| | Possibly no modularisation | | Always modularisation | | | Always modularisation | | | |
| If modularisa-tion, then | Module as a planning unit | | Module as a planning unit and/or unit of study | | | Module as a unit of study | | | |

Figure 4.1 : Types of modular education at the institutional level
Adapted from: Van Meel (1993c)

In a traditional educational system, face-to-face education is normally offered in classroom situations. Most institutes which organise their educational programme in this way employ a traditional grade system or a semester system. Until this moment, this type of educational organisation is most widespread (Bergadaà, 1990). If the programme in such institutes is said to be modular, this is usually in respect to the planning model of modularisation.

The modularised curriculum is divided into standard units, forming a programme which is easily manageable for students, teachers and school management. As already mentioned, such standardisation of the study load is an important asset towards a systematic exemptions policy.

In a dual mode system traditional face-to-face teaching is alternated with courseware packages. In this case, too, face-to-face teaching is institute-related and takes place at set times, while the courseware packages may be intended for individual self-study but may also form the basis for group assignments. In the dual mode system, information technology applications can be an essential component of the courseware packages. The programme may be offered in year grades, semesters or blocks. Usually, the entire curriculum is divided into standardized units each with a particular study load, and the modules which form the basis for self-study or group work are designed as units of study with well defined entry level, objectives, content, assignments and self-testing.

From an organisational point of view, these institutes are rather ambivalent. In the traditional educational system, the teacher integrates a wide variety of educational tasks ranging from exchanging information, giving study directions and counselling students through assessing individual study performance. To a large extent, the functioning of the traditional educational system is only possible thanks to generalist teachers. The transition to a modular system entails a considerable shift in the teacher's activities and responsibilities. In general, a modular learning environment requires more task specialisation than is the case in a traditional learning environment. Within the practical organisation of modular learning environments, the intake of students, the design of educational materials, the production of educational materials, counselling and the assessment of study results are clearly identifiable functions. In practice, these activities are carried out by different professionals, sometimes in multi-disciplinary teams. In larger institutes, these tasks tend to be the responsibilities of different departments. Consequently, institutes offering both traditional face-to-face teaching and modular learning environments are dual mode systems because they need to employ both generalists and specialists and offer both products and services. Managing such organisations requires special care.

A third type of educational organisation, finally, produces and distributes learning materials in the form of courseware packages. These courses form the basis for individual self-study or contain the material which forms the basis for group work. Information technology applications can fulfil a function in this case too. The material can be offered in a traditional grade system in which students, for instance, may have to complete a minimum number of modules in order to be admitted to the next grade. The semester system and the block system may be considered as variations on the same pattern. If there are no requirements with respect to the minimum amount of subject matters to be studied by students in a particular period, we are concerned with a modular system in which students effectively study per module. In this type of organisation, the above-mentioned division of labour is applied rather systematically. The course material, consisting of written material and information technology applications, can be considered as the cornerstone of the study system. In addition to this material, the educational system should comprise additional elements such as intake procedures, study advice, study support and examinations.

From an organisational point of view, this implies that this system will primarily rely on specialists such as subject specialists, instructional designers, media technologists, software developers specialists in the field of testing, study advisers and graphic designers. This type of institute organises the design and production of study materials in an almost industrial way.

## 5 TYPES OF MODULAR EDUCATION AT THE INTERMEDIATE LEVEL

Assuming that the extent to which a curriculum is modularised increases along the line from face-to-face teaching towards courseware packages, a number of remarks can be made with regard to the various types of education. They are represented in the following Figure:

| Form | Face-to-face teaching | | Dual mode: Face-to-face teaching and courseware package(s) | | | Courseware package(s) | | | |
|---|---|---|---|---|---|---|---|---|---|
| Organisation over time | Traditio-nal grade system | Semester system | Traditio-nal grade system | Semester system | Block system | Traditio-nal grade system | Semester system | Block system | Course |
| No modula-risation | Possible | | Possible but unlikely | | Unlikely | Unlikely | | | |
| Modulari-sation | Module as a planning unit | | Module as a planning unit and possibly as a unit of study | | | Module as a unit of study | | | |
| Diploma-oriented learning path | Programme determined in advance, possibly some electives | | | | | | | | |
| Separate courses | In the case of a modular programme, in principle possible | | Possible | | | | | | |
| Use of IT/ new media | Possible | | Desirable for specific functions | | | | | | |

Figure 4.2: Intermediate level: types of modular education
Adapted from: Van Meel (1993c)

Modularisation in face-to-face teaching usually comes down to the division of the curriculum into units of study with a standardized study load. In diploma-oriented courses, the programme is fixed to a large extent, although some courses allow the students to choose a limited number of electives. If the curriculum has been modularised, it is possible, in principle, to admit students who wish to take only a limited number of modules. Evening classes are usually organised for these students in the form of continuing education. Here the teacher is assisted by textbooks and sometimes simple audio-visual presentations (overheads, video/films, etc...). The introduction of newer media is hampered by the structure of the programme, the central position of the teacher and the nature of the available courseware (*Ministerie van Onderwijs & Wetenschappen: Eindverslag beleid nieuwe media in het Nederlandse onderwijs* 1987-1991 [Final report on the new media policy in Dutch education 1987-1991], 1992: 14). A number of comments should be made in this respect.

The use of new media in this type of education presupposes that sufficient material facilities are available, that these media are integrated in the other materials and that the students and teachers receive special counselling.

Integration of these new media into the programme breaks through the traditional class structure because most media applications are intended for individual educational situations or for small groups. This raises a number of questions concerning the organisation, the financial consequences, the curriculum, the subject matter and the educational elaboration of all these aspects. If the use of new media is not to remain limited to a single project, a systematic and co-ordinated approach is indispensable. At present, the policy in this respect varies from school to school and is often restricted to local experiments (*Ministerie van Onderwijs & Wetenschappen*, 1992). The institutes evidently assume a cautious attitude and try to weigh the potential added value of the use of new media and the organisational costs.

Combining face-to-face teaching and courseware packages offers the possibility to organise classroom activities in along with modular self-study and group assignments. This makes it possible to take advantage of various types of education to meet different educational needs and goals. The dual mode approach provides numerous possibilities for offering separate courses or for providing contract education to third parties. Besides, the number of hours of face-to-face teaching can be reduced so as to make room for new tasks for the teachers. In diploma-oriented courses, the number of subjects which can be chosen is usually restricted. Because the institutes have every reason to improve the success rate, the programming of the learning activities in a dual mode system may be very similar to the programming in a traditional system. To encourage study progress dual mode systems will maintain grade systems, semester systems, block systems or other forms of student tracking systems as formal milestones in learning paths. The use of new media is obvious in this type of organisation. Interactive computer programs and videodiscs are extremely suitable for individual or group assignments. These new media may perform the following classical functions:

1. arousing interest in a particular subject;
2. providing an orientation basis;
3. testing and/or providing prior knowledge;
4. presenting and/or explaining the subject matter;
5. applying the acquired knowledge;
6. evaluating;
7. remedial teaching and/or reteaching
   (*Ministerie van Onderwijs en Wetenschappen*, 1992: 9).

In addition to these more classical functions, applications of information technology can also offer the following didactic possibilities which are more geared to a modern, information oriented society:

8. providing source materials (databases, etc...);
9. providing contact with other students by the use of e-mail, bulletin boards, external data, etc...

In a curriculum composed of modular courseware packages, the emphasis is on self-study, which may be alternated with group work. "Materials designed for individual study - and in most cases these will be predominantly print materials - are prepared in a 'self-instructional' manner namely: written and presented in a stimulating style, easily accessible to the student through the use of aids such as lists of learning objectives, concept maps, glossaries and self-tests, attractively designed, making good use of illustrations and of different typographical styles, 'student-active', containing opportunities for the student to test and monitor progress through activities, questions and self-assessment exercises embedded in the text" (Kaye, 1989: 288).

Diploma-oriented courses usually require a particular number of modules as a compulsory component while other modules may be selected by the student. Depending on the course, the order in which the modules are to be taken may also be predetermined. In these educational systems, modules are obviously always set up as units of study, allowing students to study them as separate entities. Information technology can play an important role here. In distance education systems, telecommunication networks can form an important connection between the institute and the students or between the students individually.

## 6 Micro-level: the student's freedom of choice

To what extent do the three educational systems allow students to determine their objectives, their study pace and their learning path themselves?
Face-to-face teaching imposes a rather inflexible pattern on the students. The programme is tied to a particular place and time, the learning path is fixed and the study contents have been established in advance. The exemptions policy can be called rigid in many cases, with the exception of those curricula which have been divided into standard units: they make it easier to grant exemptions to students on the basis of units they have already completed. There are generally certain minimum requirements with regard to prior education in such educational systems, because large differences in prior knowledge are an impediment to progress in classroom situations.

The hybrid form of face-to-face teaching combined with modules allows the students a larger degree of freedom. It is possible that particular parts of the programme are not tied to a specific place or time. Diploma-oriented courses usually have a fixed programme but allow the students to choose a number of electives. The pace of diploma programmes is fixed in the sense that students must complete a minimum set of modules within a particular period of time. This dual mode system offers students the opportunity to complete their studies at a faster pace by studying a number of modules independently.

Compared to educational systems providing predominantly face-to-face teaching, systems consisting of courseware packages offer various additional degrees of freedom. In principle, they allow students to study at their own pace and at the place of their choice, as well as to select units of study and determine their learning path individually. Various authors (Schlusmans, 1991; Van den Berg, 1991; De Wolf, 1990) consider this freedom of choice as one of the basic characteristics of the educational concept of *open learning*. The students' actual freedom to effectively make these choices is determined by the policy pursued by the institute.

For instance, a traditional grade system composed of modules, which requires students to follow a fixed programme and employs a student tracking system to register every student's progress by means of interim tests, limits the student's potential freedom to a considerable extent. If a connection is established between study progress and study grants, such a modular system would largely correspond to the traditional grade system, at least as far as the student's freedom of choice is concerned. A policy issue of a different order is the question of whether particular courses will be offered to specific target groups or may form the basis for contract education or corporate training courses. In this context, the student's study pace may or may not be influenced by means of study contracts, possibly in combination with student tracking systems. This is shown in Figure 4.3:

| **The student's freedom of choice** | **Face-to-face teaching** | **Dual mode: Face-to-face teaching and courseware package(s)** | **Courseware package(s)** |
|---|---|---|---|
| *Tied to place* | Always | Partly | Basically not, but depends of the nature and the objectives of the module |
| *Tied to time* | Always | Some parts | Basically not, except special assignments |
| *Fixed learning path* | Always | Usually, sometimes a combination of compulsory units in a fixed order and electives to be scheduled freely | Individual path is basically free, but may differ according to subject matter |
| *Pace* | Fixed | Fixed | Individual pace, directed by normative duration of study per module |
| *Study contents per module* | Fixed | Usually fixed | Usually fixed per module Alternative learning paths per module are possible |
| *Exemptions policy* | Possible in the case of modularisation | Possible in the case of modularisation | No problem |
| *Requirements concerning minimum formal prior education* | Usually | Usually | Some institutes have no formal admission requirements, but in principle they may be established |

Figure 4.3: Micro-level: the student's freedom of choice in the three typical educational systems
Adapted from: Van Meel (1993c)

A comparison between these educational systems makes clear that a traditional educational system primarily based on face-to-face teaching imposes the highest degree of steering on the students, whereas an educational system consisting of separate courses will has the potential to give the students the greatest freedom. Considering the financing system for institutes for higher professional education and the present government policy in the Netherlands, a mixture of both systems offers the best possibilities for flexible admission, exemptions, tailor-made study contracts and sufficient attention to the success rate.

# 7 MODULAR CURRICULUM DEVELOPMENT

## 7.1 General starting points and innovation strategy

The basis for this section is the question: Which principles should form the starting point for the design of a specific learning environment? To answer this question, special attention will be devoted to the possibilities offered by modularisation. A number of aspects are taken into account simultaneously, such as the institute's policy concerning modularisation, the decision power of the various hierarchical levels within an organisation, the organisational preconditions necessary for the educational and didactic adjustments. Except in those cases where modularisation is limited to the development of a small number of modules, certain fundamental questions must be answered in order to design a modular programme. The central issue is the combination of the objectives, the study contents and the educational method into a coherent whole. This must be accomplished in accordance with both the policy pursued by the government and the mission of the particular institutes.

The design of a new learning environment involves all levels and actors within an institute. The approach developed in ensuing paragraphs is in accordance with the line of action set out in Chapter 3 on the management of change in institutes for higher education.

Planned organisational change in an institute for higher education requires thorough consultation procedures, a considerable amount of time and sufficient involvement of all parties, including the Management Board, during the whole process.

Because of its inevitably far-reaching effects and complexity, this process must be kept manageable and controllable. To achieve this, the top-down approach is divided into three stages namely the drawing up of a strategy framework, the formulation of a concept for the modularisation of the educational programme and the implementation. Thus, the implementation of the whole process is split up into subprocesses according to a sort of relay principle.

The various decision-making levels which need to be involved in the modularisation process are:

- the Board of Governors which is the highest administrative body of the institute;
- the sector management which is responsible for the content of the educational process and the creation of the necessary conditions for carrying that process out. In monosectorial institutes, the roles of the Board and the sector management coincide;
- the study programme director who has evolved as a third management level within educational institutes over the past few years;
- the staff members of the Educational and Information Technology Department and the teachers.

Below, attention will be devoted to the parties which must be involved at each stage of the process. The idea is to set up a framework for temporary working structures within which the innovation can be carried out.

## 7.2 How to start a modularisation programme: the macro-design

The objectives

The aim of the macro-design is to achieve clarity and unanimity with regard to the direction to be taken by a particular institute for higher professional education in years to come. The strategic objectives of the institute will be a determining factor in designing its educational programme.

For any institution, the government policy in this area will have a major influence. At this moment, the general trend in most European countries is to seek more efficiency in and greater flexibility for responding to the increasing demand for permanent education and professional training. For example, in accordance with the Dutch government's policy concerning higher professional education (Van Meel & Jansen, 1992), it may be expected that the policy of institutes for Higher Commercial Education (HEAO) will largely be determined by:

- a well-defined exemptions policy;
- a fixed duration and a normative study load for the various units of study;
- an improvement in success rate in terms of financing criteria;
- optimal adjustment of the programme and its contents and objectives to the requirements of the labour market;
- optimal harmonisation to the knowledge and skills of entering secondary school students;
- accelerated learning paths for bright students;
- an acceptable study tempo among students;
- a better distribution of the study load;
- the enhancement of independent study among students.

An additional reason for developing modules as units of study is that these modules can be used as the basis for courses for specific target groups (e.g. evening courses) or for contract education. Whether this will actually happen is for the Board of the institute to decide. It is necessary to display due realism when establishing the overall objectives. Too ambitious objectives in respect to the available resources will be a serious impediment to the implementation of the policy (Van den Berg, 1991: 32).

General policy framework

In line with the top-down approach, the objectives of the modularisation programme are formulated on the basis of the policy objectives as laid down in a development plan. The modularisation concept is the translation of the policy principles into specific aims which can be achieved through modularisation.

As has been described already, government objectives, institute-related organisational objectives and educational considerations will be weighed against one another. The next step is to make a global curriculum design.

It is important in this context to consider the functions of automation, the media, study support and the necessary financial resources. Questions such as whether or not student tracking systems or automated testing systems should be introduced require policy decisions at the institute level which can be implemented consistently in the various fields of study. Information technology generally requires major investments in hardware, software networks, and maintenance. On the top of this, these investments also entail a fixed level of operating costs every year.

A policy-based approach, starting from the highest administrative level in the institute, is the obvious way to deal with these innovations in a systematic way (Emous & Gerdes, 1992: 15). The diagram below provides an overview of the policy framework outlined above:

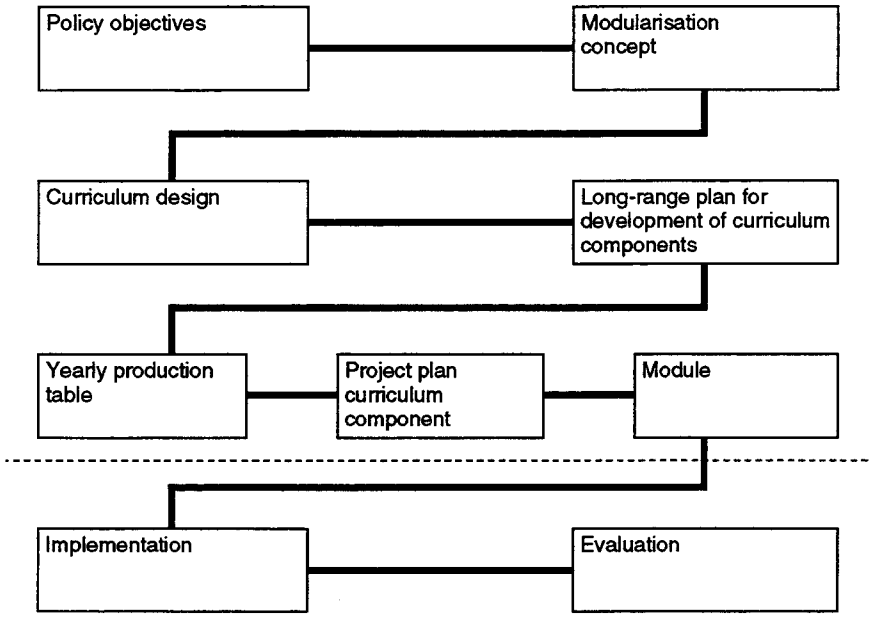


Figure 4.4: A policy framework for curriculum development
Adapted from: Van der Linden (1992: 10)

The long-range plan, which may be considered as an overall production plan, includes an overview of the curriculum components and indicates their various implementation stages. On the basis of this plan, a production plan is drawn up every year, and the various curriculum components are then elaborated as individual projects. Finally, each curriculum component is integrated in the programme and its functioning is tested in everyday practice. Developing extensive modularisation programmes may take three to four years.

The party involved: The steering committee

Establishing the institute's policy is, by definition, the responsibility of the Board of Governors. Van den Berg (1991: 37) proposes a number of measures to be taken by the school management to ensure that the introduction of modular education proceeds as smoothly as possible. The Board of an institute should take the lead as an 'instructional leader' with great responsibility for the initiation and implementation of educational innovations. This means that for large-scale modularisation projects, that one of the members of the Board must in effect supervise the process of modularisation, or that the management should be supported by one or more staff officers.

However, the more the new policy deviates from the old, the more essential the cooperation of the sector management and the directors of study programmes will be for the new policy. The advice given by the management of the Educational and Information Technology departments is also important at this stage.

Decision documents

The result of these choices should normally be included in the institute's development plan. In addition to establishing the institute's policy, it is important that insight is provided into the progress of the modularisation process from the very beginning and that the development process is organised in such a way that it remains both controllable and adjustable.

## 7.3 How to organise the curriculum: the meso-design

Educational model

At the meso-level, the question is no longer whether modularisation should be introduced, but rather how curriculum components are to be developed, eventually with more emphasis on self-study. Various models are available for dividing up the curriculum, such as subject defined, problem-based, integrative, etc... The most efficient and simple model divides the existing curriculum into blocks with a predefined normative study load based on the subjects in the existing curriculum. For each of the various parts, a decision is made whether each part will be offered as a module for self-study, for classroom presentation or as a mix. A sort of subject matter grade system is preserved in this way. In practice, this is the most frequently applied model in higher education.

The next step indicated previously in Figure 4.4 is to outline the curriculum components. The long-range plan includes an overview of the modularisation programme and shows the various achievement stages. The long-range plan can be considered as the overall production plan.

Improving the success rate and the study rate of students are often important policy objectives. The most obvious way to organise such a curriculum seems to be to set up a linear structure in which units of study with increasing levels of difficulty are programmed successively. Special provisions should be made to impose a minimal rate of study progress on students and - ideally - to make accelerated study possible as well.

A uniform learning path for all students improves the recognition of the diploma, an essential factor in providing easy access for the graduates to the labour market. Another feasible option which also meets these aims is offering a core curriculum which is identical for all students and a limited number of electives courses. In more concrete terms, decisions should be taken at this stage regarding the:

1. structure of the grade and schedule systems;
2. duration of modules;
3. order of the modules;
4. compulsory and optional modules;
5. certification;
6. number of alternative modular learning paths;
7. resit opportunities.

The party involved: the development committee

Developing the curriculum model usually takes three to four months of intensive work. According to Hover (1990: 22-23), the method commonly employed by committees where each member has a certain amount of time available and meetings are held once a month is not appropriate in this context. An internal or external project leader must at least be available for fifty percent of the work time during that period, and project group members must be relieved of their teaching duties one day per week on the same day for the duration of this step. The short time span allocated to this job is sufficient because important preparatory work has already been done during step 1 which makes it possible to work towards well-defined aims from the beginning. It is of major importance that a special organisational provision be created which allows the by-passing of existing organisational procedures and methods when necessary (Hover, 1990: 22-23).

On the basis of experience acquired in the development of modular education at the Open university in the Netherlands and elsewhere, it has turned out that these activities are best carried out in a small working group consisting of seven persons at the most. At this stage, the aim is to formulate a proposal as the basis for a programme which does justice to the demands of the labour market, the developments in the various fields of study, the policy objectives of the government and the institute, and the educational possibilities available. It may be clear that finding an optimal solution to satisfy these divergent demands is no easy matter. In order to formulate a good proposal which takes into account the management's responsibility and the abilities and wishes of the staff, the following rules of thumb may provide a point of departure for the composition of the project group:

- the members must be open-minded with regard to educational development; members with radical views may not dominate the group;
- there should be a balance between the representatives of the various sectors and/or departments;
- the members must have acquired sufficient experience within the institute and must be respected both by their colleagues and by the management.

Decision documents

At the end of the process, clarity and unanimity must have been achieved with regard to the curriculum, the partitioning of the curriculum and the curriculum components which will be elaborated as units of study. It is possible that a number of components of the curriculum remain the way they were, while others undergo fundamental changes. An overview of the components to be developed should be included in a long-range plan, indicating the various stages in which the activities will be carried out.

## 7.4 How to devise the modules: the micro-design

In the project management approach, an overall module description to which all parties agree should be drawn up in the step 1. Each part of the overall project plan is then elaborated in greater detail.

Educational model

The transition from face-to-face teaching to a mixture of face-to-face teaching and modules for self-study requires that the curriculum components be designed in such a way that they form a programme which is specially adapted to the objectives of the institute and the final requirements of the diploma. The micro-design must, by definition, be 'made to measure' and thus will vary from institute to institute. As has been described already, modules for self-study offer potentially very diverse advantages. The main advantages are improving the students' capacity for teacher-independent study, extension of the materials to various new target groups, providing possibilities for the integration of new media, acquiring specific skills concerning independent studying, permitting a differentiated intake of students, a better distribution of the study load, etc... Before a start can be made with the elaboration of the modules at a micro-level, a number of decisions will have been taken at the macro- and meso-levels. Starting from the yearly production table, a micro-level analysis is generally made of the educational approach which would be most suitable. Also, the combination of written material, electronic media and study support which would be most appropriate for each curriculum component is decided upon. Using adapted project management techniques, the development work is organised in such a way that it can be carried out in a purposeful and controllable way.

The following principles apply to modules which are to be developed as units for self-study:

1. The module contains a specific portion of the total subject matter which is coherent in relation to the course requirements and the learning objectives. A module deals with a particular theme, subject or set of subjects.

2. As an educational unit, the module contains the presentation of the subject matter via lectures, books and readers, the didactic tools for processing the subject matter via self-study, group work, computer-assisted learning, practicals etc..., and the tools needed for students for their assessment of the learning results. Both the hours of face-to-face teaching and the other hours spent on studying the module are considered to be part of the module and are specified as such.

Contrary to Van Eijl et al. (1988: 39), it is not necessary that a module can be scheduled anywhere within the educational programme. This principle has a number of complicating consequences for diploma-oriented courses, for instance with respect to the entry requirements per unit of study, which are difficult to manage.

In more concrete terms, the following variables can be distinguished at the module level (Van Eijl et al.,1988):

1. modular content model;
2. educational (didactic) model;
3. media mix per module;
4. study support elements;
5. testing and examination;
6. study guide.

Depending on their place and function in the curriculum modules may be: introductory, basic, optional, integrative, subject-specific, practical and thematic. The educational model is established on the basis of a number of considerations. The decisive factors here are the learning objectives, the student's learning experience, the desired amount of freedom with regard to time, place and pace of the learning process, individual or group activities, development costs, operating costs, and the possibilities for using a module outside the regular educational programme. Experience acquired by the Open university in the Netherlands in developing modules for distance education has made it possible to describe a number of educational models at the modular level.

Some of these considerations have been listed in the diagram below:

| **Educational and institutional parameters**<br><br>Modular model | **Learning objectives** | **Learning experience required** | **Development costs** | **Operating costs** | **Possibilities for use outside the institute** |
|---|---|---|---|---|---|
| Study unit | Knowledge and insight | Little | Very high | Low | Good |
| Textbook-workbook | Knowledge and insight | Little | High | Low | Reasonable |
| Textbook-source materials | Process of acquiring knowledge | Little | High | Low | Good |
| Case study | Problem solving attitudes | Quite a bit | High | Average | Good |
| Dissertation | Application acquiring knowledge independently | Much | Low | High | Not applicable |
| Apprenticeship | Acquiring practical experience | Much | Low | Quite high | Not applicable |

Figure 4.5: Educational models for modules
Adapted from: Van den Boom, Van den Brink, Hummel, Kirschner & Schlusmans (1989: 76)

The media applications per module is concerned with the choice between and the combination of various media ranging from printed material, audio- and audio-visual material both linear and interactive, computers and network support to the specific roles and tasks of teachers and tutors. Factors to be taken into account are the institute's policy in this field, the learning objectives, the specific functions of these media and the production costs.

With regard to study support, a distinction should be made between the subject-specific activities which are normally the tasks that teachers in institutes for Higher Commercial Education carry out on the one hand, and the counselling or supporting activities which either a teacher, study adviser or study coordinator might carry out. A number of organisational provisions must be made to make the counselling and supporting activities possible. A minimum provision would be to furnish specially adapted information to students before and during their studies, although additional informative sessions on study skills and the use of self-study may have a positive effect on their study rate.

In general, it is true that the more emphasis is placed on self-study, the more important an effective form of study support is. In this case, too, the institute's policy is a determining factor.

The tests and examinations should be in accordance with the learning objectives, the subject matter and the study activities contained in the module (Van Eijl et al., 1988: 119). It is preferable to develop several series of examinations for each module within the framework of the development process. Depending on whether the institute has an automated testing system or not, different rules will apply to the development of these items.

To ensure that modules are used in an appropriate manner, a study guide containing general information on the modules is indispensable. Important informative elements in such a guide are:

1. title, code, author, institute and year;
2. the number of credit points to be obtained through the module concerned and/or the study load envisaged for the module;
3. a preface (if desired);
4. an introduction presenting the motives behind the contents of the module;
5. a description of the aims and the final attainment level;
6. course requirements, including the required materials, equipment, classrooms, possibilities for exemption and references;
7. a timetable of sessions and tests, the tutor and/or group members (or classmates);
8. the set-up of the module;
9. study tasks, study directions and opportunities for self-assessment;
10. the subject matter, or references to the subject matter;
11. the examination procedure, including possibilities for resits;
12. self-assessment tests (including answers and standards for assessment);
13. an overview of relations to other parts of the programme;
14. evaluation form for evaluating the course.

<u>The party involved: the project team</u>

The development of the yearly production plan consists of the elaboration of individual project plans for each curriculum component and the development of the learning materials. This is mainly the task of teachers and project leaders, possibly in cooperation with staff members of the Educational Department and Information Technology Department. In most institutes, the regular programme will have to be continued while the modules are being developed. Due care should therefore be taken in planning the development work and relieving teachers from their normal teaching duties.
During the design and development of the modules, a project approach is the best way to effectively achieve the expected results (Hover, 1990: 22-23). Important preconditions for this approach are good and well-defined relations between the project team on the one hand and the department co-ordinator and the study programme director on the other. The project-based approach requires that a rough description of the module to which all parties agree is drawn up in the first stage.

Decision documents
Each part of this overall project plan is then elaborated separately in greater detail in subsequent subdocuments.

In Chapter 5, a systematic method for the efficient development of modules will be described. The average duration of a module development process may vary from a few weeks to a few months. It is useful, therefore, to devise an overall approach which can be applied in the development of various modules. This approach has three advantages: in that the work is effectively carried out, it produces an experience curve and the members of the project team become acquainted with heuristics which can also be applied to other projects. The basis for the approach is formed by general principles developed within the framework of project management and experience acquired from course development at the Open university of the Netherlands.

## 8 CONCLUSIONS

The transition from classical educational systems towards more open and flexible educational systems is incremental. It has already become clear that modularisation can make an important contribution to this transition process.

Considering the government's current policy, it is justified to contend that flexibility, quality and improvement of the success rate will remain on the agenda of both the government and the institutes for higher education. In principle, modularisation can be introduced in widely divergent educational systems which, from the point of view of learning theory, are based on different principles. In potential, modularisation allows the institute to achieve a wide range of objectives in higher education. Until now, experience in designing and using modular study material aimed at self-study has been primarily acquired in distance education.

In higher professional education, modularisation is generally regarded as a means to organise the programme more efficiently, hereby emphasising the benefits of independent learning. At the same time an effort is being made to maintain or improve the educational quality while adapting what is offered to demands for additional training. Finally, the transparency of a modular systems is reflected by the modular credit system that eliminates many of the thresholds for transfer of students and courses between different institutes, in either a national or a European context. In this sense, a modular curriculum can be seen as an extension of the European Community Course Credit Transfer System.

In order to set up a modular curriculum which structurally enhances the flexibility of the educational offer, this modularisation process must be anchored in the organisational context on a permanent basis. In more concrete terms, this means that this educational reform must be carried out at the various hierarchical levels of an educational institute.

It has become clear that educational innovation goes hand in hand with organisational change, however numerous research programmes have shown that organisational change within the context of higher education is a knotty problem. Nevertheless, in Chapter 3 a number of guide-lines derived from the various investigations have been presented.

One can put forward, for instance, that educational innovation requires the permanent involvement of the management during the entire process, that a top-down strategy is the most appropriate approach and that a prudent personnel policy is indispensable. In accordance with these findings, a systematic policy model has been developed in the present Chapter involving all sectors of the educational institute.

A modularisation programme should be carried out in three stages. During the first stage, modularisation is primarily a matter of policy in which the objectives are of paramount importance. The decision to divide the study load into standardized units is usually taken in this stage. In terms of flexibility and student-orientation, this makes the programme easier to deal with and allows a better distribution of the study load. With regard to the aim of increasing the accessibility of the programme, this first stage provides a basis to determine how an exemptions policy needs to be adapted. The first stage of modularisation need not necessarily lead to further stages. A number of institutes may restrict themselves to this stage. In the next two stages, it is also conceivable that not all projects are equally ambitious. Because objectives and possibilities vary from institute to institute, the design and elaboration of a modularisation programme are always 'made to measure'.

The second stage of modularisation is at the curriculum level. On the basis of the demands of the labour market, the final requirements for receiving a diploma and the objectives of the modularisation programme, a decision for each module is made as to whether it will be offered for classroom use, for individual self-study, or as a mixture of both. This curriculum design method offers a number of advantages. The modular structure permits rapid adjustment of courses to new developments where by the institute's ability to adapt the curriculum is increased. With regard to the integration of new media, which often break through the traditional grade structure, modules for self-study offer an extra incentive provided that they are financially feasible. For students, it's well designed nature offers the opportunity for a more diversified educational mix and the use of different didactic working methods. Students who wish to complete the course at an accelerated pace may also have the opportunity to do so. Finally, this system makes it possible for an institution to offer a flexible study programme to students who differ as regards their previous education.

The third stage is the logical elaboration of a number of decisions taken during stages 1 and 2. According to the plan, specific modules are elaborated every year, each requiring a number of decisions at the curriculum level. This can be efficiently done because the frameworks for both policy and didactics are now clear. It is possible at this level, to offer a higher degree of flexibility and openness, for example by including additional study help and/or specific assignments to the modules to better meet the wishes of particular categories of students. Finally, a framework for developing modules was presented along with a format for elaborating the study guide in a concise manner.

# CHAPTER 5
# PROJECT-BASED MODULE DEVELOPMENT

ABSTRACT

The present chapter describes how the process of module development can be organised in an effective way. It is based on literature in the field of project management, supplemented with Open university publications on the development and production of modular study material. Modularisation programmes require an accepted procedure to allow the various activities to be carried out in either a sequential or parallel manner and the utilisation of staff capacity to be as efficient as possible. In this Chapter, a project-based approach is proposed for the modularisation process with emphasis on the development of modules. Relatively simple methods and techniques have proved sufficient for developing modules in an efficient and controllable way. The transparency created by this method of working offers advantages for all parties involved.

## 1 INTRODUCTION

The literature on project management is relatively young because interest in its techniques did not really begin to arise until the early 1950s. Various types of projects can be distinguished. Traditionally, project management has been concerned with one - off large - scale projects, e.g. public works projects such as the construction of a bridge, the Channel tunnel or an oil platform in the North Sea. The second type to be distinguished involves projects carried out only once within an organisation, such as the introduction of a computerised information system or a reorganisation. The third type of project can be found in the industrial production of bulk goods. Under the influence of continuously increasing international competition and shortening product life cycles, companies are forced to renew their range of products more frequently. By systematically applying project management techniques, many enterprises have already managed to reduce the period between a concept and the introduction on the market of a new product, while, at the same time improving cost and quality control. Finally, project management techniques have been applied for a long time now in the accomplishment of aid programmes in developing countries (Giard, 1991: 7-8).

The application of project management techniques in a variety of situations has caused many different definitions of project management to come into circulation (Giard, 1991; Wijnen, Renes & Storm, 1990; Meredith & Mantel, 1989; Barnes, 1985; Chvidchenko, 1974). Given the set-up and aim of this study, the definition proposed by Cleland (1990: 18) is the most useful one. According to this definition, project management is:
"The creation and delivery of something that did not previously exist, so that the project meets cost and schedule objectives. Projects are building blocks in the strategy of an enterprise that facilitates that organisation's growth and survival.

More broadly, a project is something that brings about change in an organisation and has:

- time, cost and technical performance requirements (or objectives);
- complexity, scope, or innovation beyond the operational work of the enterprise;
- a key role in preparing the organisation for its future;
- significant contributions by two or more functional units of the organisation;
- a direct contribution to the success or failure of the enterprise."

In the literature on project management, the classical management functions (planning, organisation, co-ordination, control and evaluation) are systematically elaborated for the operational level. Maximum advantages of efficiency and scale - the classical advantages of specialisation - are partly sacrificed to achieve a higher degree of purpose. Very little attention has been devoted to the question of which contingencies are of special importance in a particular organisation (Mintzberg, 1979) or in a particular type of project. According to Kerzner (1982: 7), project management has come into existence as a result of an increasing need for new management techniques. In practice, project-based structures are generally adopted when there is a high degree of task complexity. If, in addition, this high degree of complexity is accompanied by a dynamic environment, project management techniques can be considered as a way for an entity to continue to function effectively in a period of increasing insecurity (Stinchcombe & Heimer, 1985; Kerzner, 1982). Detecting the environment in which project management is most likely to occur does not however, provide a solution to the problem of harmonisation of a project and its environment, which is generally acknowledged as an essential problem. Attempts to develop a systematic approach to or a general view on this issue have never been made.

Organisation theory is apparently not very interested in project management. Stinchcombe and Heimer (1985: 25) consider this to be a symptomatic effect of the fact that organisation theory has mainly focused on the study of permanent and stable characteristics of organisations, such as their structure and related variables. Theoretical considerations, therefore, devote more attention to routine activities within a more stable environment. The lack of well-defined theoretical frameworks might also explain the highly normative nature of the literature on project management.

This may be illustrated by the following quotation, whose message and tone may be seen representative for a large number of textbooks in this field:
"Because a project has a relatively short time duration, decision-making must be rapid and effective. Managers must be alert and quick in their ability to perceive 'red flags' that can eventually lead to serious problems. They must demonstrate their versatility and toughness in order to keep subordinates dedicated to goal accomplishment. Executives must realise that the project manager's objectives during staffing are:

- acquire the best available assets and try to improve them;
- provide a good working environment for all personnel;
- make sure that all resources are applied effectively and efficiently so that all constraints are met, if possible (Kerzner 1982: 204).

The following sections will present a method for developing modules for higher education in a project-based manner. Such a system is useful for a number of reasons. First, it allows every project team to begin its work on the basis of an accepted strategy, which means that certain procedures need not be devised for each project individually. In addition, this approach allows one to achieve a higher degree of efficiency due to the experience effect. Finally, it increases the controllability of the individual projects and provides a better overview of the overall development work. The starting points are the principles formulated within the framework of project management and experience acquired in course development at the Dutch Open university.

## 2 PRINCIPLES OF PROJECT MANAGEMENT

Project management consists of three core activities:

- project planning;
- project control;
- staffing.

*Project planning* includes all activities necessary to carry out a project, specifically activities with respect to:

- the programming of the content-related activities to be performed;
- the allocation of financial resources;
- the information and monitoring systems to be used;
- the relationship between the project and the parent organisation;
- the use of staff capacity.

In more concrete terms, the aspects to be planned and controlled are time, money, quality, information and organisation. Specific tasks and techniques have been developed for each of these aspects, as is shown in Figure 5.1 below. Those elements which may play a role in the development of modules will be discussed in greater detail.

| Aspect | Objects | Specific tasks | Techniques |
|---|---|---|---|
| **Time** | – content-related project activities<br>– interim results ('milestones')<br>– relationship between the two | – target definition in all stages<br>– progress control in all stages | – 'scheduling'<br>– network planning<br>– bar charts<br>– capacity planning |
| **Money** | – costs<br>– results<br>– returns | – target definition in all stages<br>– progress control in all stages | – measuring and estimating outgoing and incoming cash flows<br>– classification of costs<br>– difference analysis<br>– estimating the costs, budgeting, signalling-financial project evaluation etc. |
| **Quality** | – quantified requirements with deviation margins<br>– systems, procedures and techniques | – target definition in initiative and definition stages<br>– progress control activities in design, preparation, implementation and follow-up stages | – standardisation<br>– quality/costs analysis<br>– quality engineering<br>– failure mode effect<br>– criticality analyses |
| **Information** | – content-related project data on identification, registration and monitoring<br>– modification in these data | – target definition in initiative and definition stages<br>– progress control activities in design, preparation, implementation and follow-up stages | – application of computer and automation techniques<br>– configuration management<br>– information by exception<br>– project documentation and filing |
| **Organisation** | – relationship between project organisation and parent organisation<br>– internal project organisation:<br>– distribution of tasks, powers and responsabilities<br>– general management tasks | – target definition at start of the project, start of implementation and rounding off of the project<br>– progress control activities in intermediate stages | – techniques from organisation theory and behavioural science<br>– analysis of objectives and tasks allocation<br>– decision-making<br>– team development<br>– social skills<br>– conference techniques<br>– conflict management |

Figure 5.1: An overview of objects, specific tasks and techniques for the five control aspects
Adapted from: Wijnen, Renes & Storm (1990: 76-100)

The size and complexity of the projects concerned are of major importance when chosing planning and control techniques. Specific techniques have been developed for dealing with complex projects which may last a few years and involve hundreds of different subactivities with dozens of staff members per subactivity. Other techniques are available which are more suitable for simple projects with a more limited scope. The development of modules, or of course material in general, can be classified among the relatively simple projects compared to the construction of a factory or the set up of a new product line in an industry. Consequently, we will focus on techniques and methods which are useful for our purpose.

After a project has effectively started, *project control* becomes the main function of project management. The control tasks take relatively more time and require a larger investment than the activities involved in project planning. On the basis of experience data, Harrison (1985: xv) concludes that the planning of projects takes up approximately twenty per cent of the time, whereas control activities take up the remaining portion.

The essence of project control lies in the signalling of problem areas and/or delays as early as possible in a project in order to take the measures which are necessary to reduce delays and costs before they get out of hand (Harrison, 1985: 57). Cost accounting is only one element of the entire project control system.

Yet, the monitoring function is sometimes wrongly restricted to this aspect. Project managers are not only responsible for financial management, but also for the planning and control of the project as a whole. If a project involves various objectives to be pursued simultaneously, all of these objectives cannot be maximised or minimised at the same time. It will be inevitable work out a number of compromises, usually with regard to the duration or the costs of the project. In general, it may be said that the project manager is responsible for reducing project costs and project duration to a minimum while at the same time ensuring an acceptable level of quality (Harrison, 1985: 55-65).

Summarizing, it may be stated that a clear distinction is made between the planning of content-related activities aimed at the project result and the control activities aimed at its effectiveness. Wijnen, Renes & Storm (1990: 53) put forward that the cornerstones of project management are:

- phasing and decision-making with regard to the content-related aspects of the work;
- integrated control of project management aspects.

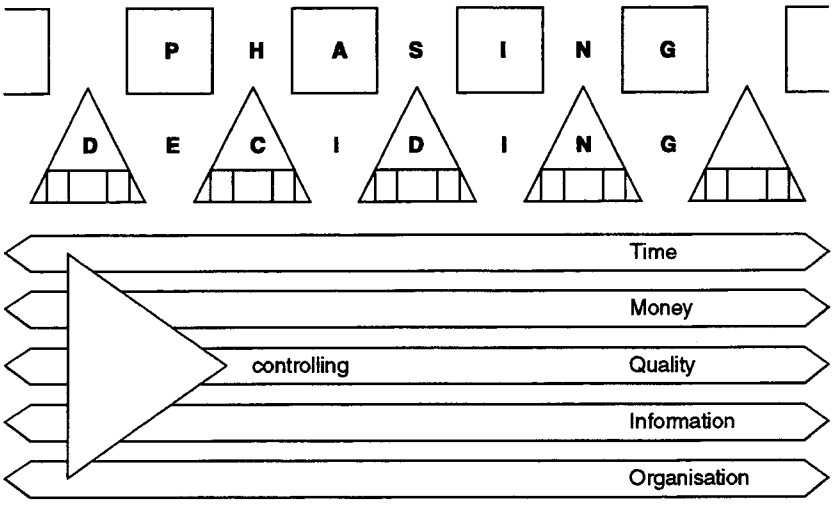


Figure 5.2: Project phasing, decision-making and control
Adapted from: Wijnen, Renes & Storm (1990: 52)

The success of projects appears to be determined to a large extent by *staffing management*, in which selection and training of project team members are important factors for success (Pinto & Prescott, 1988: 7). The introduction of project management requires ample attention to the training of team members and project managers. A number of problems occurring in relation to modularisation clearly point in this direction. Investigations into the need for professionalisation (Weijenberg, 1992) have shown that institutes for higher professional education are faced with a number of educational and organisational difficulties which could be resolved by means of suitable training programmes.

Educational problems most frequently encountered during the development work are:

- insufficient ability to formulate learning objectives;
- insufficient ability to compose self-study material;
- insufficient ability to offer the material in a well-structured way;
- insufficient ability to allocate different objectives to effective and efficient media use;
- insufficient ability to test the usefulness of existing materials;
- inability to develop test items which are consistent with the learning objectives;
- lack of experience with regard to developing written materials.

Organisational problems are usually attributed to:

- lack of time for the development work;
- underestimation of the amount of time and effort required for gaining experience with regard to developing material for self-instruction;
- inability to convey the material to the students;
- inability to explain the usefulness for them of working with self-study materials to the teachers.

In accordance with the above-mentioned studies, the conclusion can be drawn that a number of teachers evidently feel the need for professionalisation with regard to the knowledge elements and skills which they consider necessary for developing modules of a self-instructional nature (Weijenberg, 1992: 20). For modularisation projects, a systematic approach to the professionalisation of the project team members, requiring co-ordinated cooperation between all hierarchical levels, is necessary.

In addition, working together with colleagues in a team and dealing systematically with the available time and resources make an appeal to social skills other than those normally called for in a 'traditional' educational institute. New forms of interdependence, inexperience and frictions due to competition between colleagues are problems which are recognized as such by most authors (Cleland, 1990; Volpp, 1989; Kerzner, 1982; Knight, 1979). As early as in 1967, Argyris (1967: 34) pointed out that problems in matrix structures - organisations in which all activities are project-based - are primarily due to the fact that the management style and the functioning of the project team members are more attuned to traditional organisations and their accompanying power relations and specialisations. In line with Mintzberg (1979), Argyris considers training to be the most appropriate way to solve this type of problem. To be effective, an important requirement is that this training is adjusted to the daily work as much as possible, or, as formulated by Argyris (1967: 52): "The matrix organisation requires education that:

- focuses on individuals in team systems;
- occurs where the problem is located;
- is learned by the use of actual problems;
- is tested by the effectiveness of the actual results;
- is controlled by those participating in the problem."

## 3 PROJECT-BASED DEVELOPMENT OF MODULES

In every study programme, a number of dimensions with regard to curriculum design can be distinguished. Firstly, a formal recognised study programme leads to an officially recognised qualification or diploma. This diploma may be a combination of a number of certificate units which can be obtained separately, and which may each be subdivided into smaller units. Second, the modular structure is concerned with the composition of the curriculum in standard units and with the learning paths which may be taken through the curriculum.

A particular educational method is selected for each module. Normally, the sequence of the modules, in combination with a number of educational methods, should enable the students to satisfy the final requirements of the course. Third, as far as content is concerned, a curriculum is composed of a number of subjects in which a number of main areas and themes can be distinguished. The degree of coherence and consistency of the way in which the three above-mentioned dimensions have been carried out determines, to a large extent, the effectiveness of the study programme.

The following table provides an overview:

| *Curriculum design* | **Educational programme** |
|---|---|
| *Qualification structure* | Diploma certificate units<br>Parts of certificate units |
| *Modular structure* | Curriculum/final requirements<br>Standard units<br>Educational methods |
| *Subject structure* | Subjects<br>Main areas<br>Themes |

Figure 5.3: Levels of modularisation

The project-based approach outlined in the following paragraphs aims to develop a procedure to develop as effectively as possible standard units (modules) for self-instruction.

### 3.1 Phasing

The first step divides the whole project into a number of phases, listing the accompanying activities and explaining the nature of each activity. Such content-related programming of activities is not very time-consuming for smaller projects such as the development of a module. A formal method for making a ground plan of the work to be carried out during the project is the so-called work breakdown structure (WBS). It divides each phase into content-related subactivities, each with their own specific interim results (Kerzner, 1982). By means of a WBS, the work can be subdivided into controllable packages of tasks for which individual staff members may be appointed and held responsible (Harrison, 1985: 121).

In accordance with this general principle, it is possible to distinguish a number of phases and corresponding activities in the development and production of course material.

The following phasing is applied by the Dutch Open university:

| | |
|---|---|
| Step 1 | Global course description |
| Step 2 | Course plan |
| Step 3 | Start of parallel phases<br><br>3.1 Production of the materials<br>– printed materials<br>– printed visual materials<br>– audio-visual materials<br>– software materials<br>– reader<br>– test/examination instruments<br><br>3.2 Formative evaluation of the course<br><br>3.3 Harmonisation of the course with study support requirements |
| Step 4 | Draft course |
| Step 5 | Definite course |
| Step 6 | Material production/publication and distribution |
| Step 7 | Summative evaluation (for revision purpose) |

Figure 5.4: Consecutive stages of course development
Adapted from: Course development manual 1983

In Research & Development departments with university-educated project team members, the objectives for planning and control are usually determined in consultation (Dunne, 1983: 35). The attainability of the project aims in the process of module development can be increased by deciding both these objectives and the criteria for planning and control by mutual agreement between teachers, project management and the study programme director.

## 3.2 Milestones or decision points

The end of each phase is followed by a so-called milestone, i.e. an interim result and simultaneously a formal decision point which serves to initiate the next phase. At these milestones, a variety of content - and/or management - related decisions may be taken with regard to the activities in the following phase.

On the basis of the proposed phasing for course development, the following table shows the accompanying decision documents and indicates for each milestone what must be on the table before the next phase can start.

| | |
|---|---|
| Decision document 1:<br>Course plan<br>– blueprint of the course<br>– didactic concept<br>– media mix<br>– contracting | Decision document 2:<br>Draft course<br>– date of transfer of copy to production department<br>– transfer of other materials<br>– implementation plan<br>– results of formative evaluation<br>– evaluation by study programme director |
| Decision document 3:<br>Finished course material<br>– course materials to delivery department<br>– transfer of examination items<br>– delivery plan | Decision document 4:<br>– subsquent costing and evaluation of the project |

Figure 5.5: Decision documents and activities involved in module development

The various stages in the development process of a module are represented in the following network diagram. The starting date indicated at the top left of each activity is 1/1/93 because no time planning was made yet.

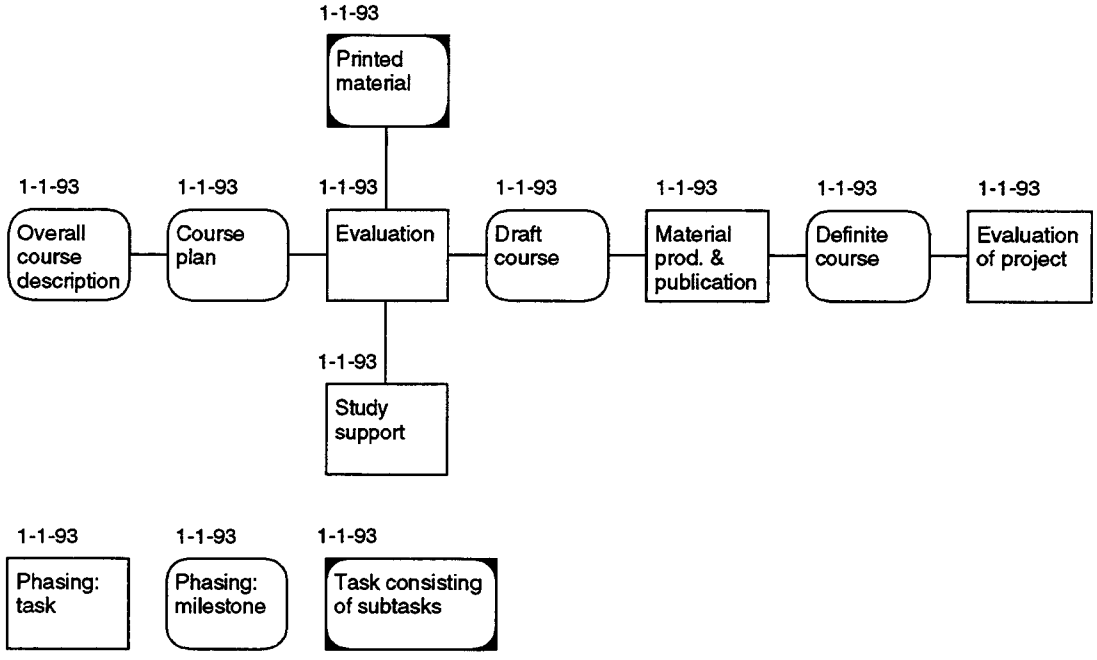


Figure 5.6: Network planning of subactivities involved in module development

## 3.3 Time planning and staffing

The next step involves finding the most appropriate technique for drawing up a time planning. Bar and Gantt charts are the most simple techniques for producing the basic time planning and both are helpful as communication instruments for increasing the manageability of projects.

"One of the major advantages of Bar charting is that it is a relatively simple technique, requiring little training and the individual manager or engineer can construct his own planning with little difficulty and everyone involved can understand them (Harrison, 1985: 144)". On the basis of the time planning, arrangements can be made concerning staffing, the allocation of financial resources and other material provisions. A study on the use of management techniques in Research & Development departments showed that the Bar chart is the most frequently applied technique (Dunne, 1983: 37). A shortcoming of this method is that it does not show relationships between activities. This problem can be solved, however, by using a Bar chart in combination with an arrow diagram. A second drawback of the Bar chart method arises when a subactivity overruns the foreseen period. In that case, the entire diagram must be adjusted to represent the actual state of affairs (Harrison, 1985: 130-136), although this should not be too much of a problem with the software applications currently available. More sophisticated techniques such as the Critical Path Method and the Program Evaluation and Review Technique do not have these shortcomings. They are, therefore, more appropriate for large-scale projects but require more knowledge and experience to be properly applied. For modularisation in higher education, it is recommended to work with visual techniques such as Bar charts, arrow diagrams and simple software applications because of the relative simplicity of the projects and the opposition of team members to extra paperwork (Van Meel, 1992).

There are various methods to estimate the time required for developing a module, with different results for each method. To work effectively, it has been proven that the teachers need to be able to work without interruption on a task for a particular period of time. Ideally, teachers should be relieved of their teaching tasks for three to four weeks to work on module development (Hover, 1990: 55). The standard for the amount of time required for development is based on study hours, i.e. the number of hours spent by students on learning or studying the module in question. Or, formulated in other words the total amount of instruction time plus the time for self-study or homework. Hover (1990: 10) estimates the development time to be three to five times the study hours.

Because developing course material is a new task for teachers, we assume that an average of four development hours per study hour is a realistic standard. It goes without saying that the development of entirely teacher-independent modules requires greater care than the development of modules in which particular educational tasks are carried out in a more traditional way in a classroom situation.

To illustrate the project-based method for module development will now be elaborated. According to the above-mentioned ratio of four development hours per study hour, a module of forty study hours requires a development time of 160 hours. Starting from the following estimate of the amount of time required for the various activities, it is possible to make a planning for the project. It is based on the assumption that a teacher is relieved of his other teaching duties in order to work on module development for two days per week (for example Mondays and Tuesdays) to work on a forty hours course in which a minimum of hours are reserved for self-study.

| Name | Earliest start | Latest start | Actual start | Days |
|---|---|---|---|---|
| Global course | 04-01-93 | 04-01-93 | 04-01-93 | 0.50 |
| Course plan | 04-01-93 | 11-01-93 | 04-01-93 | 2.00 |
| Printed material | 11-01-93 | 01-03-93 | 11-01-93 | 14.00 |
| Evaluation | 01-03-93 | 02-03-93 | 01-03-93 | 1.00 |
| Study support | 02-03-93 | 02-03-93 | 02-03-93 | 0.50 |
| Draft course | 08-03-93 | 08-03-93 | 08-03-93 | 0.50 |
| Material production and publication | 08-03-93 | 08-03-93 | 08-03-93 | 0.50 |
| Definite course | 09-03-93 | 09-03-93 | 09-03-93 | 0.50 |
| Project evaluation | 09-03-93 | 09-03-93 | 09-03-93 | 0.50 |

Figure 5.7: Example of a planning scheme

This planning scheme shows that if the teacher had started to work on the module on January 4, 1993, he would normally have finished it on March 9. The order and duration of the activities are represented by the following Bar chart:

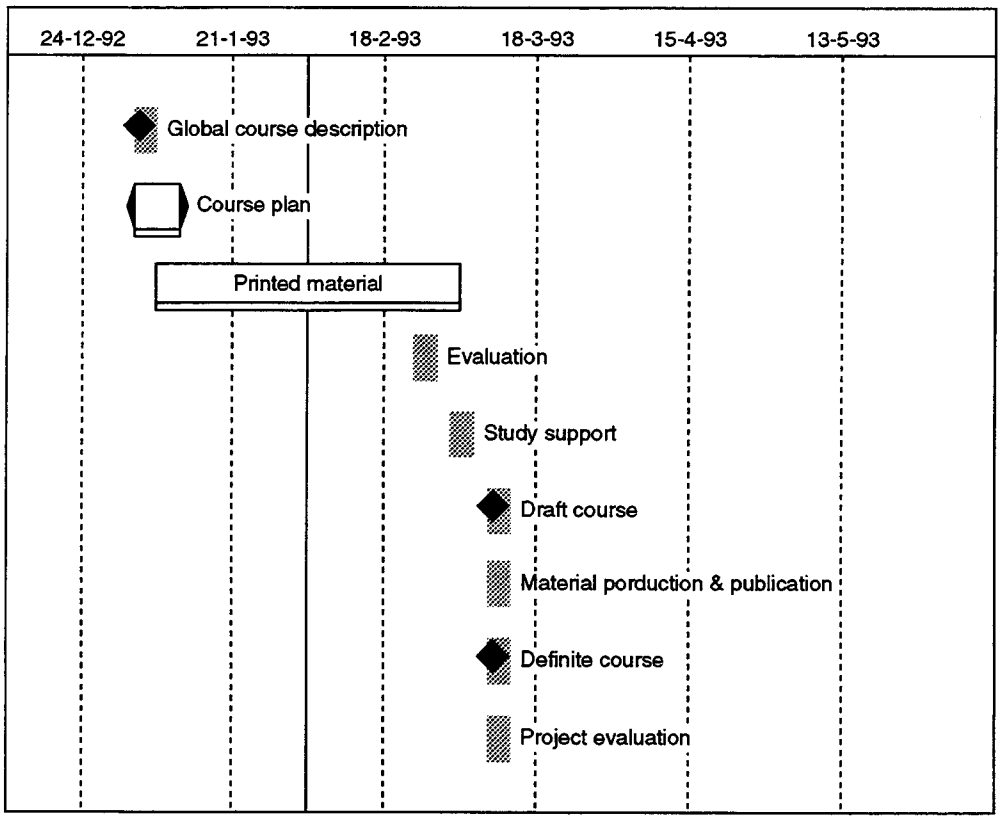


Figure 5.8: Bar chart of the various activities involved in module development

## 3.4 Budgeting

The aim of the planning and control of the incoming and outgoing flows of money is to make sure that the returns of a project exceed its costs. The continuity of commercial organisations depends to a great extent on their ability to make correct assessments of these two flows of money.

In higher education, a system of normative budgeting tends to be used. This implies that the entire project is budgeted at the start and that the financial means required are subsequently supplied at the start of each successive phase of the project. The WBS provides good guide-lines for the budgeting of each phase of the project (Storm, Blom, Claessen, 1991: 195-198). Most software applications provide a simple means to obtain an overview of the total budget available for a project and to figure out how much money has so far been spent on each phase of the project.

### 3.5 Quality control

In this stage, control of the quality of the products and services provided by an institute for higher education relates to the quality of the various courses. A distinction can be made between subject-specific and didactic qualities. In line with the proposed policy framework for modularisation, it is possible to organise the quality control for each module in two different ways. One way is to make use of developmental (formative) testing, which means that the suitability of the educational material is tested as it is being developed. For this purpose, a number of students who can be seen as being representative for the student population is asked to study the material and to comment on it including the study time spent, after which adjustments may be made. This allows shortcomings to be corrected before the course material is presented to large groups of students. Another way of evaluating the quality of courses is by systematically gathering information in day-to-day educational practice at an institute. It may be clear that these two methods can in principle be used side by side. An institute may also opt for a differentiated approach. This implies submitting parts of modules for self-instruction to a small group of students beforehand and evaluating other parts of the curriculum on the basis of information gathered in day-to-day practice at the institute.

### 3.6 Information management

Adequate project monitoring requires an information system that can minimally data:

- on performance in relation to the planning and the allocated budget;
- on the actual state of affairs, more specifically, data on the progress made, the costs and the resources already used;
- which is available shortly after each period of time (Harrison, 1985: 76).

### 3.7 Control activities

The major factors to be controlled in a modularisation programme are the progress of individual projects, the information with respect to the individual modules and the overall annual programme, and the quality of the study material produced. Most software applications allow data on an individual project to be collected progressively, so that an annual overview can be obtained. In order to allow regular updating of the overviews of the state of affairs, it is necessary to make certain arrangements beforehand. This becomes increasingly important as the number of projects involved and the number of persons working on these projects increase. Various software packages are available to aid in doing this type of administrative work.

## 3.8 The relationship between the parent organisation and the project

As mentioned in Chapter 3, institutes for higher education can be described as professional service organisations specialised in the execution of complex, though fairly stable, activities (Mintzberg, 1979: 367). The strength of these organisations lies in their ability to solve new problems by applying a number of problem-solving methods learnt in advance. Innovation is generally considered to be one of the greatest challenges to professional organisations. In relation to higher education in particular, the traditional autonomy of teachers and the lack of co-ordination between teachers are often considered structural barriers to innovation (Easterby-Smith, 1987; Meacham, 1982; Becher & Kogan, 1980; Weick, 1976). As stated in Chapter 4, modularisation is an educational innovation which affects all aspects of education.

The following Figure gives a schematic overview of the differences between of a traditional educational institute and an institute only producing modules for self-instruction. It may be clear that if both processes take place within one educational institute, this will make still greater demands on all those involved.

| **Dimensions** | **Conventional organisation for higher education** | **Institute for higher education producing modules** |
|---|---|---|
| **Output** | Classroom teaching | Modules:<br>– print<br>– electronic, AV, IV, COO<br>– additional tutoring |
| **Targets** | Regular students | Regular students and specific target groups |
| **Organisation** | Service-oriented | Product-oriented |
| **Operational core** | Professionals<br>Role-oriented (idiosyncratic)<br>Autonomous | Professionals<br>Task-oriented<br>Interdependent |
| **Quality control** | Difficult (intangible good) | Essential |
| **Co-ordination** | Standardisation of<br>– knowledge<br>– output | Standardisation of<br>– knowledge<br>– output (production plan)<br>– process skills |
| **Design parameters** | Selection and training | Selection and training |
| **Administration** | Loosely coupled | Co-ordination of linkages |
| **Technology** | Simple | Information technology<br>– production<br>– administration<br>– courseware |
| **Environment** | Complex, stable | Complex, niches with varying stability |

Figure 5.9: The organisational parameters of a traditional institute for higher education compared with an institute only producing modules for self-instruction
Adapted from: Van Meel (1992: 32)

Another important difference within this context concerns the organisational structure. In a number of institutes for Higher Commercial Education in the Netherlands (HEAOs), study programmes have taken the place of discipline-related departments. Although the department director guaranteed an optimal co-ordination between the department and its related academic disciplines, this organisational arrangement has been substituted by the study programme department. This allows a better adjustment to the needs of the labour market. In this organisational context, the discipline related units must align the content of the modules with the requirement of the study programme involved.

Before a project is started, the study programme director and the various department co-ordinators must have reached a sufficient level of agreement with respect to the composition of the project team and the responsibilities of the team members, in order to allow optimal harmonisation of the project with the rest of the organisation. This co-ordination requires a systematic approach. A number of projects in the field of information technology have been structured according to a steering committee/project team organisation (Verreck, Slotman & Van Osch; 1994; Verreck, 1991), a set up which is also very suitable for modularisation programmes.

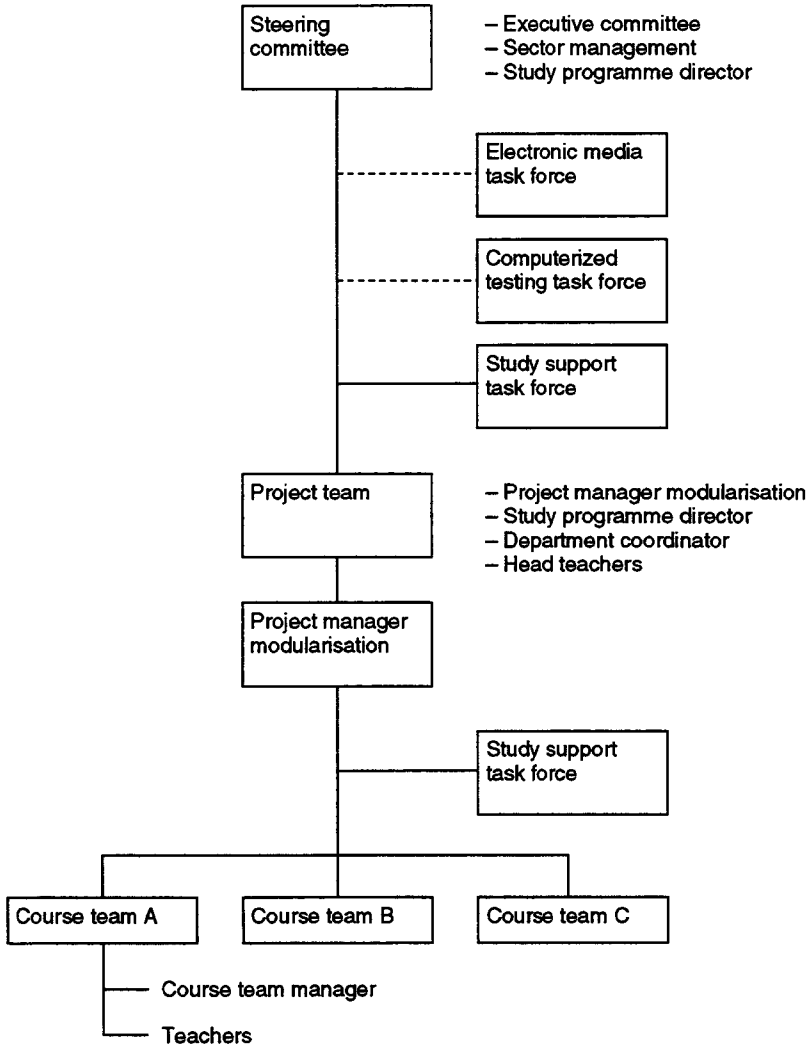


Figure 5.10: Project structure for modularisation in higher professional education
Adapted from: Verreck (1991: 12b)

In the case of extensive modularisation programmes, it is important to appoint a project manager. The person in question may be a member of the project team, but this need not necessarily to be. The proposed approach is based on the assumption that the teachers making up the course team are responsible for the didactic and the content-related elaboration of the modules. In practice, this means that the course team submits a proposal concerning the modular model, media mix, study support, study guide and the examination procedure related per module to the project team. After it has been approved by the project team, this proposal will be further elaborated by the course team.

## 4 CONCLUSIONS

Project management is a combination of planning and control techniques which have proven their worth in some organisations in which a great degree of complexity of the tasks to be performed goes hand in hand with a dynamic environment. Starting from the assumption that it is worthwhile to develop a method for carrying out the various activities involved in extensive modularisation programmes, a project-based approach has been developed for the development of modules for self-instruction. An efficient and effective method of module development requires a systematic planning and control of time, quality, information, organisation and money. In accordance with these generally accepted basic principles of project management, these techniques were elaborated and translated into the terms of an educational environment. The module development process was divided into a number of different activities forming the basis of project planning. The activities distinguished are: global course description, course plan, production of course materials, draft course and publication. A striking aspect is that quite simple techniques, such as Bar and Gantt charts, are available for the progressive planning of an annual production table. The advantages of this method are that it allows optimal utilisation of staff capacity and material resources, that it provides a better overview of the various projects and that it allows better subsequent financing of each module. Most teachers, however, do not have experience in working with these techniques. In numerous studies, teachers have explicitly expressed their need for professionalisation in a number of fields. This applies, for example, to the specific skills required for the development of modules and the knowledge and techniques required for active project management. It may be concluded from this that active human resources management is required to create the conditions which will allow teachers in a modular learning environment to fulfil their new tasks adequately.

# CHAPTER 6
# MAJOR ISSUES FOR EDUCATIONAL INNOVATION IN HIGHER PROFESSIONAL EDUCATION IN THE NETHERLANDS

ABSTRACT

In this chapter, the main issues related to higher professional education are discussed in order to lay out a foundation for the investigation of future developments in this area. In the near future, higher professional education will have to adapt itself to new requirements of the labour market and a growing demand for updating and upgrading education. At the same time, the promotion of educational quality and cost-efficiency remain key issues for the ministry of education. In order to achieve these goals, important policy changes have been made with respect to higher professional education. In the past decade a large-scale operation for the merging of smaller institutes was launched in order to obtain a more acceptable level of organisational effectiveness. Autonomy and financial responsibility constitute the core elements of the new measures meant to attain these goals. In this context, the enhancement of the quality of the education offered triggers important changes in the educational process. The development of modular curricula, an optimal distribution of the study load and performance monitoring are but a few instruments used to reorganise this process. Additionally, the introduction of shorter study programmes, eventually combined with part-time courses, makes it possible to tailor the educational supply to the requirements of specific target groups. Currently, various institutes of higher professional education are trying to meet the demands from both the labour market and individual students through the development of modular curricula development and the use of modular certification. These two measures are primarily used in part-time courses.

## 1 INTRODUCTION

### 1.1 The Dutch system of higher education

Higher education in the Netherlands comprises both university education, provided by universities and university hospitals, and higher professional education. At the time of this writing, there are 80 institutes for higher professional education, 13 traditional universities, and the Open university in the Netherlands. More than 400.000 students attend higher education. In the past, each branch was subject to its own specific legislation. The Higher Education and Research Act (WHW), approved by parliament in April 1992, covers all institutes for higher education and brings them under a common legislative umbrella. This act became law on August 31, 1993.

*University education and research institutes*
Of the thirteen traditional universities in the Netherlands, nine are general universities covering a broad range of scientific fields, three are technical universities and one is an agricultural university. In the Netherlands, approximatively 150.000 students are pursuing their studies at these universities.

*Open Higher distance education: the Open university*
Founded in 1984, the Open university had 60.000 students taking one or more courses in 1991. The mission of the Open university (Ou) is to ensure the greatest possible degree of accessibility of higher education to students of eighteen year of older regardless of prior formal certification. The Ou provides both 'second chance' and 'second way' education by means of self study packages. These packages are composed as to enable individual students to study at their own pace, in their own time and independent of place. While the university tries to imbed as much study support in the materials as possible, additional study support which may be required is given at the eighteen regional study centres. The education provided is organised into a curriculum with a modular structure offering both university education and higher professional education in seven discipline areas.

*Higher professional education*
In this third subsystem of higher education, drastic changes have been effected since the 1970's by means of mergers. After the first major round of mergers, 80 HBO institutes were left in August 1991 from an original 341 smaller institutes. Approximately 250.000 students study at these HBO institutes and more than 20.000 persons are employed by them.

*Financing of higher professional education*
Three percent of public spending in the Netherlands, goes to HBO institutes, universities, university hospitals and research institutes (*Ministerie van Onderwijs & Wetenschappen,* 1991c). The total government contribution to these institutes amounts to more than five billion guilders. 1.5 billion goes to the HBO-institutes and almost 3.5 billion guilders goes to the universities. This government funding is only a part of the total financial picture.

The first source of funds is the afore mentioned government contribution, which is based on a general method of calculation. This contribution consists of four components: a regular contribution, a restructuring budget, a budget for equipment and a budget for housing. To invest in buildings, approval from the minister is required (*Ministerie van Onderwijs & Wetenschappen, HOOP* 1990).

The regular government contribution is calculated on the basis of a financing standard. This standard takes into account the number of students and their success rate. A financing standard for 1.6 years of study is applied for students who leave an institute without a diploma, while one of 4.5 years is used for students who leave with a diploma. For the purpose of this system of financing, it is important for HBO institutes to identify potential drop outs at the earliest possible stage and to promote both a short stay at the institute and a high success rate (Goudriaan & de Groot, 1990). The second source of funds is controlled by organisations with specific objectives in the field of scientific research. Examples of such organisation are the Netherlands Organisation for Scientific Research (NWO) and the Royal Netherlands Academy of Sciences (KNAW). The necessary financial resources are made available to these organisations by the government (*Ministerie van Onderwijs & Wetenschappen, HOOP* 1990).

The third source of funds is constituted by the income generated by the institutes themselves for activities such as contract research, contract education or the provision of services.

Within the framework of the HBO Education Act and the Higher Education and Research Act, there are no formal restrictions on attracting external funding. Figure 6.1 presents an overview:

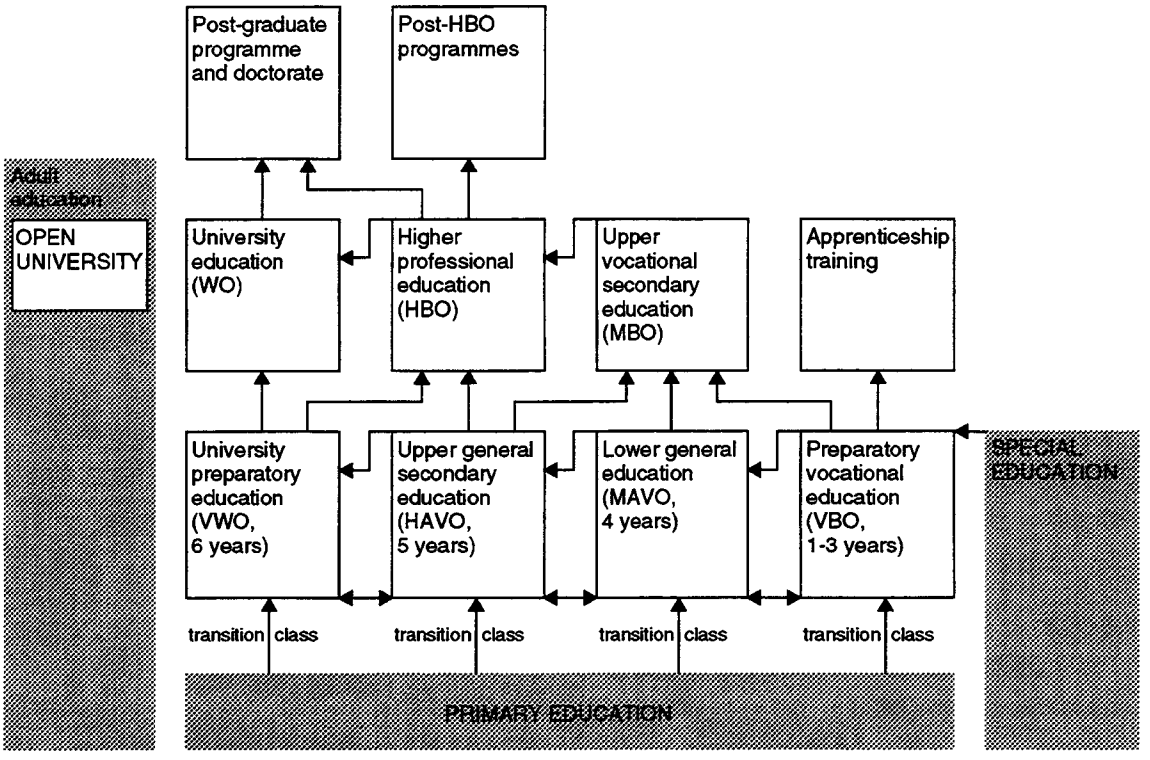


Figure: 6.1 The educational system of the Netherlands
Adapted from: Self-Assessment Business Administration, Open university (1994: 128)

## 1.2 Actors in higher professional education

As classified by Goedegebuure (1989), the decision-making process in higher professional education is largely determined by:

- the government;
- the HBO Council;
- the HBO institutes.

*The government*

The government plays a decisive role in the allocation of financial resources, in the determination of policy and in the introduction of legislation. In this respect it should be regarded as the central actor. In the early 1980's, the legislative framework of higher education was fundamentally changed. After decades of growth in government spending in higher education an important reduction was imposed.

During the second stage of the reform process new mechanisms of public control were introduced. Cost control and output control became important instruments for measuring the performance of individual institutes.

Finally, the state reduced its direct influence on higher education, replacing it with indirect measures such as financial steering through legislation and budgets (Neave, 1990). In essence, the policy of the Dutch government was characterised by both attempts to curb public spending and deregulation. This has caused a change in the Dutch policy with regard to education and scientific research. Consistent with the general policy of retrenchment, the aims were to increase the efficiency of the educational system and to optimise the outputs of both education and scientific research. In the period from 1985 to 1988, certain legislation concerning higher education came into force. This legislation introduced a greater degree of decentralisation and a new system of financing, allowing educational institutes to operate with greater autonomy. The new system of financing is based on the principle that institutes are rewarded according to their performance.

In practice, this means that the government delegates the responsibility for carrying out policy to the institutes for education and research. In exchange for the budgets allocated, the government makes strict quantitative and qualitative demands on their performance. Recently, consultations were held between the minister of education and the institutes for higher education aimed at reaching agreements on these matters for a period of three to four years. By introducing of these so-called framework agreements, the government and the institutes decide what trends are of decisive importance to higher education. It is then up to the educational institutes to organise their activities in such a way as to meet the explicit demands.

*The HBO Council*

The coordinating body for the HBO institutes, the 'HBO Council', was founded in 1975. The task of the HBO Council is to promote the interests of the HBO institutes vis-à-vis the government and to provide services to the institutes. The HBO Council acts has a pivot position in connecting the individual HBO institutes to each other and consults with the government, as well as to other public and private organisations. The Association of Cooperating Dutch Universities (VSNU) can be considered to be a similar advisory body for the universities. The HBO Council and the VSNU meet with the minister in the so-called Higher Education Chamber. This gives them an advisory role towards the minister of Education, Science and Culture.

*The HBO institutes*



At this moment, there are 80 institutes for higher professional education in the Netherlands, offering a total of more than 200 HBO study programmes. Moreover, an institute for higher professional education may comprise one or more sectors. A sector is composed of a number of study programmes which are related in content and directed at one and the same professional field. At present, almost half of all HBO institutes is monosectorial, but, partly as a result of mergers, the number of multisectorial institutes is increasing. The following sectors can be distinguished in higher professional education:

- agriculture;
- education;
- technology and natural sciences;
- commerce and administration;
- health care;
- social welfare;
- fine and performing arts.

The number of students is increasing in all of these sectors, with the exception of those of health care and fine and performing arts. Each year, 65.000 students start their higher education in a HBO institute. A downward tendency in the number of part-time HBO students can be discerned for all sectors, except for commerce and administration. As a result of an increase by 2,500 commerce and administration students the population of part-time students has thus far remained stable (*HBO Almanac*, 1991/92).

The following diagram summarises the interrelationships between the different actors in Dutch higher education.

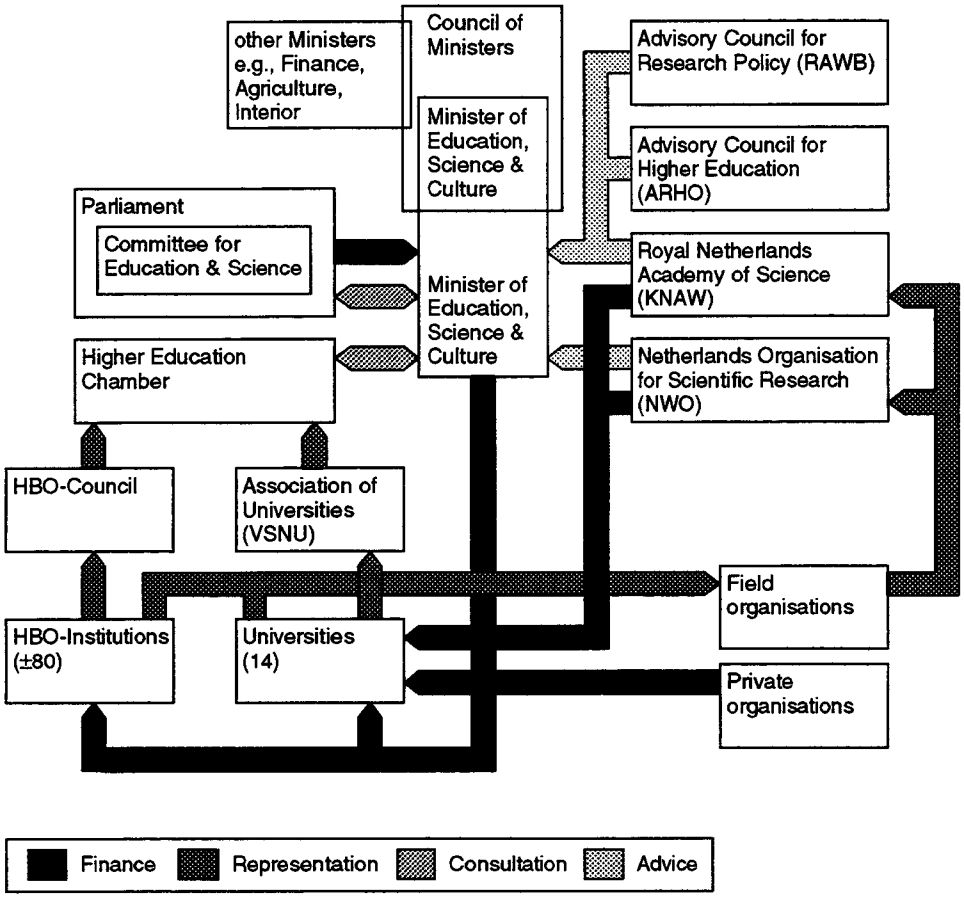


Figure 6.2: Actors and their interrelationships in higher education in the Netherlands
Adapted from: Goedegebuure & Westerheijden (1991)

Finally, the minister is presently pressing for the more than 80 HBO institutes to undergo a second round of scale enlargement and fusion operations. There are presently three HBO institutes with more than 12.000 students. Fifty percent of the more than 200.000 students are studying at the thirteen largest institutes.
There remain however 29 HBO institutes with fewer than 1.500 students. As a result of the economies of scale, new opportunities are arising within clusters of HBO institutes for task reallocation and interdisciplinary cooperation (*Ministerie van Onderwijs & Wetenschappen,* 1991b).

## 2 OTHER ELEMENTS OF THE REORGANISATION OF HIGHER PROFESSIONAL EDUCATION

### 2.1 Economising the educational process: the introduction of a standardized duration of study

As early as before the second World War, it was observed that the duration of study at universities was often very long and that many students dropped out without receiving a degree. Assuming that more students would have to be offered higher education in the new, post war society, the authorities developed a number of initiatives which led to the introduction in 1981 of the so-called 'two-tier structure' for higher education at universities.

The main objective of this operation was to increase efficiency in higher education. The major instruments available to achieve this goal are the reduction of both the duration of study (increased study rate) and the numbers of students dropping out before completing their study. The aim of the government is to achieve that seventy percent of all enroled students actually obtain their academic degree. Regarding the success rate of higher professional education, the government's 1991 estimate is one of 65 percent. The average duration of study for graduates is 4.4 years, and for drop outs 1.7 years (*Ministerie van Onderwijs & Wetenschappen,* 1991c).

On August 31, 1993 the two tier-structure was eliminated. The Law on Higher Education and Research stipulates an initial four years of higher education after the completion of secondary school. It further defined higher education as a total system, with higher professional education and university education as distinguishable subsystems (*Ministerie van Onderwijs & Wetenschappen,* 1991b).

Admission to a HBO course is possible for anyone who has a diploma from a university preparatory school (VWO), higher general secondary education (HAVO) or three years of intermediate professional education (MBO). Admission to university education is possible for persons who have graduated from a university preparatory school. Passing the first year examination at an HBO-institute also qualifies one for entering university education in the first year. If a prospective student of 21 years, or older, does not meet either of these requirements then he/she may take an entrance examination (colloquim doctum) specific to specific majors. The maximum period of registration for which each student has the right to receive a grant is limited to six years (*Ministerie van Onderwijs & Wetenschappen,* 1991b). Students who wish to follow a second major after having received an HBO or university education or who change majors halfway through the study will have to be prepared to assume the higher cost. The government considers subsequently doing more than one major to be an inefficient and expensive learning path and subsequently tries to discourage it. In contrast to the accumulation of majors, switching to a different major after one has passed a HBO foundation course is not seen as inefficient. To enable students to change to a different study programme, the degree of exchangeability of courses must be increased. This implies a closer cooperation between institutes of higher education. Developing a common foundation course for university education and higher professional education is a current initiative in this regard. Every year, 20% of all first-year university students change their majors, while 9% of the first-year HBO students do this (*Ministerie van Onderwijs & Wetenschappen,* 1991c).

As a result the policy of HBO institutes is aimed at improving their performance in terms of success rate of their students. In practice, this means that it is necessary to investigate how the study pace can be increased by applying suitable didactic methods and by identifying potential drop outs at an early stage.

In September 1993, a draft version of the Higher Education and Research Plan 1994 (*Ministerie van Onderwijs & Wetenschappen*, 1993) was published by the Ministry of Education and Science. Some key elements in this policy document are:

- The systems of higher education, specifically university education, HBO and MBO, should strengthen their own identity and assume a profile of their own, leading to more clarity about the nature of their study programmes. The tendency of university education and HBO to design new programmes that could just as well be offered by the other sub-sector should be halted. For university education, this means that university programmes should become more scientifically oriented.

- The government intends to spend less money on what it calls 'inefficient study routes', meaning that it will only finance the completion of a study programme in one sub-system of higher education. Over the last years, a growing percentage of HBO graduates continued their studies at a university to receive a university degree. Currently, almost 15% of all HBO graduates pursue this route. Moreover, about 25% of MBO graduates continue their studies in a HBO programme. The ministry insists that each of these forms of initial education should be viewed as final education, after which graduates should start their professional careers instead of pursuing other (higher) forms of initial education.

- Therefore, the so-called 'piling up' of studies should be discouraged. The government plans to do this by limiting the time that a student can hold a full student status within higher education to five years. At the same time the government will make the conditions for students to receive state grants stricter, by allowing only those under the age of 27 to start a government-financed study programme at a low tuition fee and by reducing the funding institutions receive for students above the age of 27. Special policies will protect both allochtonous students and women who wish to re-enter the professional world.

For university programmes with significant percentages of students with a HBO diploma and/or older students, this could lead to a considerable reduction of the number of students. Of course, all these developments will lead to budget cuts.

The Coalition Agreement of 13 August 1994, which forms the basis of the present government, stipulates a further elaboration of the policy towards greater efficiency in higher education. The major parameters of this policy are the reduction of the duration of studies and the study loan system. The following paragraph of the Coalition Agreement reflects the considerations and choices made in respect with higher education.

"With the Ministry of Education and Science making an unavoidable contribution to the terms of reference of economy measures, the choice is for a policy of austerity with respect to extended periods of study rather than measures affecting the fundamental component of the education system. The interests of preparatory vocational education (VBO) and upper vocational secondary education (MBO) must also be taken into account.

Austerity measures in higher education can only be achieved without negative effects on quality by ensuring a shorter average length of stay on the part of students.

After consultation has taken place with the various institutions offering higher education, policy will be steered in the direction of a structural change which does justice to the desire to keep higher education accessible while at the same time making it more selective and differentiated. Broadly speaking, this change assumes that there will be a system of basic programmes lasting three years and advanced programmes varying from one to three years. The basic programmes will be freely accessible, will form self-contained units and will provide a recognized degree. The length of the advanced programmes will not be uniform and access to them will be selective.

The institutions offering higher education will be closely involved in the development of this structure. Account will be taken of the recommendations of the advisory document on higher education which is currently being drawn up by the Scientific Council for Government Policy.

Institutes for higher education must be able to offer a flexible educational programme that offers students different learning paths and various professional experiences. Both the design of the advanced programmes and the method of selection will be dealt with by the institution concerned. Administrative scope for the necessary restructuring will be created by extending the powers of the institutions. This will involve changes in administrative structure, capacity and selection policy and tuition fee levels where advanced courses are concerned. Policy with respect to students' right to government-funded education will be designed in such a way as to incorporate the above considerations.

Because of the amount of time required to bring about the planned restructuring, the level of savings set out in appendix 2 will be accrued in the higher education sector over the next few years. The funds reserved under the terms of the Outlines Agreement for the so-called 'Agency' will be employed for this purpose. As far as necessary, efficiency measures will have to be identified for 1996 and perhaps for ensuing years in order to encourage a shorter average length of stay. In doing so, the problems facing the government with respect to staff redundancy payments must not be made any worse.

A fundamental choice is also necessary with respect to the question of financial assistance, with students themselves taking responsibility for the costs of their studies and their living expenses. The community can loan them the financial resources; in this context it is necessary to consider carefully the ability of the student to repay the loan after graduation. Such a system based on loans must take account of the risks this has with respect to accessibility. Restricting the level of debt incurred by students from low-income families is a logical step.

The new system of financial assistance will take effect for new students in the 1995/1996 academic year for the then applicable course duration of four years. When the planned basic programmes are introduced, they will be designed in such a way as to take account of the shorter course duration.

The repayment obligation will be made dependent on the pace at which the student follows his/her programme (graduation within the course duration) and the ability to repay. From the point of view of the state, financial assistance for students undertaking advanced programmes will continue to be available only in the form of a loan, the possibility of further local provisions is not excluded. Depending on whether or not the savings targets are met in 1995 or in later years, other measures will be taken in the higher education sector to achieve the cost-cutting objectives as defined in the Coalition Agreement (Kok, 1994)."

### 2.2 Economising on operational costs

Since personnel costs account for more than seventy percent of the total budget of an institution, it is understandable that it is particularly here that the executive committees of HBO institutes attempt to curtail expenditure. The relative autonomy in deciding their own policy with respect to personnel and other resources provides each individual executive committee with a number of alternatives (Broesterhuizen, 1987).
In a number of HBO institutes, jobs are cut where possible and vacancies arising as a result of staff turnover are filled only with younger and thus less expensive teachers. In a number of cases, temporary employment contracts provide extra flexibility. It is important to recognize that the possibilities for economising on labour costs are restricted by the legal position of civil servants (Broesterhuizen, 1986).

An important alternative by which to reduce the operational costs is to reduce face to face teaching. If teachers are withdrawn from the traditional educational process, or if education is expanded to new demands, teachers can be given new tasks which will generate additional income. At the same time, this makes it possible to organise the workload of teachers better (Broesterhuizen, 1987). The expansion mentioned above can be set up in various ways. Two very different solutions are increasing class size (to large, lecture format) or modularizing education in the direction of self-study by students. In the light of these considerations, teacher independence can be increased by offering modular education, in which study packages play an important role.

## 3 POINTS OF INTEREST WITH RESPECT TO HIGHER PROFESSIONAL EDUCATION

In addition to the reforms in the legal framework of higher professional education, some important changes have occurred in the immediate environment of these institutes. Nowadays, higher professional education is developing in a dynamic environment (Van Eijl, Cappetti, Merkx & Van Muyden, 1988; Van Meel, 1992) with respect to:

- increasing possibilities of information technology both in education and in companies;
- the changing socio-economic needs with reference to higher education, in particular the degree of adjustment of education to the labour market;
- new educational demand for updating and upgrading.

The following sections deal with these discerned developments in greater detail.

## 3.1 Developments in the field of technology and the labour market for higher education graduates

The 1980's were a decade in which significant progress was made in the development of information technology in general and in the application of information technology in different areas in particular. These developments gave rise to a demand for new forms of knowledge and expertise. Higher education attempts to meet this demand by means of new courses and curricula. In order to keep up with a society which rate of change is constantly increasing, and with international competition on the other, there is a need for a much more flexible educational system. The wish to achieve a higher degree of adjustment between education and the labour market has been translated into a number of initiatives. The government attempts to exert a guiding influence by means of incentives for particular study programmes.

At the same time, attempts are being made to reduce the number of students studying Fine and performing arts and Social welfare (*Ministerie van Onderwijs & Wetenschappen,* 1988). In accordance with this policy, the HBO Council states in its programme 'Knowledge and Quality' [HBO-Raad, Kennis en Kwaliteit] (1990), that the fine tuning of education to the labour market is seen as a priority objective. Furthermore, special attention will be paid to study programmes in the fields of Technology and Commerce and administration. According to the 1988 Higher Education and Research Plan (*Ministerie van Onderwijs & Wetenschappen,* 1988), a shortage of HBO graduates in Technology (10 percent) and Commerce and administration (20 percent) will manifest itself by the late 1990's.

## 3.2 Socio-economic factors

With respect to demographic developments, the total number of people in the age groups up to 45 years is expected to be decreased by more than 30 percent between 1984 and 2035, while that of the people over 45 will increase. All other factors remaining constant, this will mean that the number of young people entering higher education will decrease (*Ministerie van Onderwijs & Wetenschappen,* 1988). The estimation of the demographic evolution until 2010 clearly indicates a decline of the range between 0-44 years.

| Population | 0-19 years | 20-44 years | 45-64 years | > 64 years |
|---|---|---|---|---|
| 1990 | 25.7 | 40.9 | 20.7 | 12.8 |
| Calculated in advance average estimation | | | | |
| 1995 | 24.4 | 39.7 | 22.7 | 13.2 |
| 2000 | 24.4 | 37.7 | 24.3 | 13.6 |
| 2010 | 23.4 | 33.4 | 28.2 | 14.9 |

Figure 6.3: Survey composition of the population 1990-2010
Source: Netherlands Central Bureau of Statistics [Centraal bureau voor de Statistiek] (1991)

A direct result of this trend is that fewer people will be available for the labour market.

The policy employed in previous years which allowed certain employees to retire from employment via the so-called early retirement scheme (VUT regulation) is presently a subject of debate between the social partners.

It seems reasonable to assume that, in the near future, employees will remain active on the labour market up to a more advanced age. As a result, the demand for training later in life will, in all probability, increase steadily. Higher education will be confronted with the task of providing curricula or parts of curricula in such a way as to offer employees the opportunity to keep their knowledge and skills up to date by means of continuing education or to allow them to retrain themselves in new areas. Within this context, another important factor is the percentage of secondary school students which enter higher professional education. By means of additional efforts to optimise the link with higher general secondary education (HAVO), it may be possible to achieve an increase of students admitted to higher professional education, despite the reduction in the total number of young people.

## 3.3 Changing educational demands

Individualisation, emancipation and utilitarianism are socio-cultural developments which leave their mark on the demand for higher education.
Individualisation implies that learners are increasingly demanding education that matches their particular requirements. Consequently, this necessitates a differentiation both in the content of higher education and the form in which it is offered. Moreover, the emancipation of women will gradually lead to full participation in higher education. As a reaction to the ample attention for self-development and culture in the 1960's and 1970's, a greater emphasis is now placed on the economic benefits associated with higher education (*Ministerie van Onderwijs & Wetenschappen, HOOP* 1988).

| | full-time | part-time | total |
|---|---|---|---|
| 1990 | 61.700 | 16.800 | 78.500 |
| 1995 | 65.700 | 18.700 | 84.400 |
| 2000 | 67.800 | 18.500 | 86.300 |
| 2005 | 69.200 | 18.000 | 87.200 |

Figure 6.4: Estimate of numbers of students admitted to the first grade of HBO institutes
Source: Advisory Body Distribution Estimates HBO [Adviesgroep Verdeelramingen HBO] (1991: 40)

As a result of the socio-cultural developments outlined above, higher education will, in the future, have to meet a more diverse demand than has been the case until now. Concretely, this means that part-time education, continuing education, individualised learning paths and corporate training will find greater application. Providing more flexible education via modularisation, increasing student independence and offering education which is catered to the student's available schedule and environment will require a great deal of attention in the near future. Finally, the organisational adaptations which have to be made in order to carry out this educational innovation will will be the subject of increasing attention in the coming years.

## 4 TOWARDS AN INNOVATIVE HIGHER PROFESSIONAL EDUCATION

Present education policy is aimed at increasing the innovative capacity and the social orientation of higher professional education. The purpose is to increase the flexibility of the education provided and at the same time to allow for a greater control over the expenditures. In addition, educational needs in relation to the needs of the labour market will be taken into account to a greater extent than has been the case. In addition to efficiency, a great deal of attention will also be devoted to the quality of education, which should coincide with the capacities and interests of students (*Ministerie van Onderwijs & Wetenschappen,* 1991b). The following sections provide a more detailed description of the policy concerning the quality of higher professional education.

### 4.1 Promotion of quality

The essence of quality control is the will to make the interaction between the student and the education provided the central issue. This attitude, however, cannot be imposed by force of legislation or financing (*Ministerie van Onderwijs & Wetenschappen,* 1991b). Institutes of higher education must adapt their curricula to the requirements of specific target groups to a greater extent. In this context, offering modular education is considered a way to achieve this greater flexibility. In addition, such a structure of the curriculum allows the education provided to be more teacher-independent in its organisation, thus making additional savings on personnel costs possible.

In accordance with the Framework agreements, the institutes will commit themselves, by contract, to certain goals. This business-like approach is perfectly compatible with the ambition to improve education, since the initiatives for educational improvements will have to be taken by the institutes themselves. In line with the policy of indirect steering, the government intends to adopt a rather reserved attitude in relation to the methodological. Nevertheless, it does emphasise that Visitation Committees should always have the benefit of international contributions, in order to remain sufficiently aware of international standards and references (*Ministerie van Onderwijs & Wetenschappen,* 1991a).

Quality has two distinct dimensions. The first of these is the quality of education as a service or product in relation to its content and didactic style. Of paramount importance in this connection are the specific course features and the student characteristics. The second dimension concerns the degree of compatibility between the education offered and the demands of its potential users. One central issue in this context is the relationship between the training course and the labour market and the extent to which a course is practice-based.

Large numbers of students and an emphasis on success rates must not have a negative effect on the quality of the education provided. The institutes are primarily responsible for the quality of the education they offer. They are prepared to develop methods for internal evaluations in a systematic manner (*Ministerie van Onderwijs & Wetenschappen,* 1988). The procedures for self-evaluation are set up for each sector in cooperation with the HBO Council. Greater attention will be devoted to this structural task in the near future (Knowledge and Quality, 1990).

Within the framework of external quality control, the results of the Visitation Committees are of importance. These Committees compare the educational demands in a particular social sector with the curriculum. Their task is to make recommendations with respect to the objectives of an educational institute, the social context and the legal requirements applying to higher professional education. The visitation procedure for higher professional education was started in 1991. According to the Sectorial Quality Control Implementation Plan, all HBO institutes will be evaluated by 1997. The executive committee of the HBO Council makes the findings of the Visitation Committees public and requests the HBO institutes to state the actions they intend to undertake in agreement with the recommendations made by the Committees (HBO Business Economics Visitation [Visitatie Commissie Bedrijfskunde], 1992).

*Educational innovation in higher professional education*

A number of measures can be of major importance to educational innovation in higher professional education. Taking recent policy into account, the following aspects are of importance to HBO education: adequate admission procedures for students with deficiencies in their prior education; individual advice after the first year of study, study support and progress control in combination with an individualised study plan. The degree of flexibility of the educational programme can be increased by offering more part-time courses, courses with intensive study support and shorter courses of study. The purpose of all these measures is to offer education with more degrees of freedom for the individual student (Knowledge and Quality, 1990).

In attempting to offer better education, great benefits can be derived from proper control of the study load. Alternative forms of education such as case methods, problem-based learning, computer-assisted learning, teacher support rather than teacher control, and combinations of learning and working (apprenticeships) can have a positive effect on students' motivation. In addition, a combination of study support and the application of new technology may improve study progress. A greater didactic variety should make shorter programmes and the option to study at a different pace available to certain students. In addition, educational methods to promote the combination of working and learning should be explored (*Commissie onderwijs - arbeidsmarkt*, Rauwenhoff et al., 1990). Responding to the interests and talents of students must not lead to undue proliferation of the number of courses offered.

The Socio-Economic Council (SER) has pointed out that great differentiation in content can lead to fragmentation and a range of different courses which are difficult to compare. To increase the degree of orientation towards the labour market, the HBO institutes and the minister have agreed that the relationship between higher professional education and the labour market will be intensified. The HBO institutes will also aim to improve the recognizability of the individual training courses. In this context, the sectors of Commerce and administration and of Technology have first priority. The Rauwenhoff Committee (1990) has formulated a number of general proposals with respect to the problems of education with respect to adapting to the labour market.

In practice, many institutes try to meet the demand for more open forms of higher professional education. These institutions often combine part-time courses, evening courses, an elaborated exemptions policy and modular certification.

Unfortunately, a coordinated approach towards full-time courses and part-time course is often lacking with respect to modular curriculum development (Van Meel & De Wolf, 1994).

To conclude, greater attention will be paid to the question of what form international exchange should take in the field of higher education in the years to come. International adaptation and cooperation are, to an increasing extent, seen as having great importance. In concrete terms, this internationalisation involves structural contacts between institutes, the exchange of students and staff, the development of common learning materials, the integration of educational and research programmes and the presentation of 'double' diplomas. Scientific cooperation between institutes in neighbouring countries will be extended. In this context, cooperation of the Netherlands and Flanders (Belgium) has been carried out for some time and more recently, agreements have been reached between the Netherlands and a number of German federal states. In addition, the information on the Dutch educational system provided to interested parties outside our country should be improved (*Ministerie van Onderwijs & Wetenschappen,* 1991b).

## 5 CONCLUSIONS

In this chapter, an outline has been provided of the Dutch government's policy concerning higher education as it was developed in the 1980's and 1990's. At this decision-making level, a number of objectives can be recognized. The Dutch government hopes to improve the effectiveness of the educational institutes and to reduce its costs. At the same time, it hopes to achieve a flexible educational system which is increasingly able to meet the demand for a more differentiated range of educational programmes offered. For higher professional education, these intentions have been translated into various policy measures. A large-scale operation of mergers was set up, during which the original number of more than 340 HBO institutes was reduced to 80 larger HBO institutes. The underlying assumption is that these HBO institutes will have sufficient organisational capacity to develop the education that they offer in such a way so as to satisfy the requirements of the Dutch society. To be effective, these institutes need to have the necessary resources at their disposal. The system of lump sum financing has contributed to a greater autonomy of the HBO institutes. In practice, specific financing takes place on the basis of development plans which the individual HBO institutes present to the minister. Financing has thus come to act as an important mechanism for indirect steering. Since it was started, the HBO Council has acted as the co-ordinator of the fusion operation, and has since been the pivotal instance in consultations between the HBO institutes themselves as well as in their consultations with the government.

The enhancement of educational quality and flexibility with a cost-efficient basis may be the trigger for the implementation of structural educational innovations. The enhancement of the quality of the education offered requires, under these conditions, important changes of the educational process. Modular curriculum development, an optimal distribution of the study load and performance monitoring are but a few instruments which may help to reorganise this process. By now, various institutes of higher professional education are trying to meet the demands from both the labour market and individual students through modular curriculum development and modular certification.

To meet the demand for more open forms of education, an ever greater number of institutes of higher professional education offer part-time courses in addition to full-time courses. In such cases, the part-time course is usually seen as a form of second-chance or second-route education. By means of granting exemptions and providing modular certificates, part-time courses make an effort to meet diverse educational needs. Often, part-time courses are more advanced with regard to modularisation than their full-time counterparts. A sobering thought, in this respect, is that both part-time and full-time education have in many cases not yet developed an integrated approach with respect to modularisation.

# CHAPTER 7
# CASE *HOGESCHOOL EINDHOVEN*

Institution of Higher Professional Education
Study programme for Management, Economics and Law

## 1 INTRODUCTION

Together with two other *hogescholen* (institutions of higher education) in the province of North Brabant, *Hogeschool Eindhoven* is part of the Foundation for Higher Professional Education in the South of the Netherlands (*Stichting Hoger Onderwijs Zuid-Nederland*). The *Hogeschool* occupies seven sites in Eindhoven and offers higher professional education - both full-time and part-time - in the form of 24 different study programmes at three faculties, namely the faculties of economics, technology and health care. Other *Hogeschool Eindhoven* activities include postgraduate continuing professional education, research projects, in-company training programmes, consultancy and contract teaching. The contract teaching and postgraduate continuing professional education programmes cater for more than 2.000 students. In the 1993-94 academic year, *Hogeschool Eindhoven* had more than 12.000 full-time and part-time students (see Figure 7.1).

| | |
|---|---|
| Full-time | 10555 |
| Part-time | 2131 |
| Total | 12686 |

Figure 7.1: Students at *Hogeschool Eindhoven* 1993-1994
Source: *HBO-Almanak* 1993-1994, 1993: 114

## 2 BACKGROUND

In 1938, a technical secondary school (*MTS*) was founded in Eindhoven, becoming an institution of technology (*HTS*) in 1957. After a major increase in the number of study programmes and specialisations, this institution became an Institution of Higher Professional Education (*HBO*) in 1965. In 1968, a department of Higher Education in Economics and Management (*HEAO*) was added. Since 1986, the institution has been known as *Hogeschool Eindhoven*. That same year saw the addition of the sector Social Education and Community Work and a study programme in Drama. Since 1991, the *hogescholen* in North Brabant have formed a co-operative organisation. The first step towards this was the amalgamation of the executive boards of *Hogeschool Eindhoven*, the *Katholieke Leergangen* [Catholic Learning Centre] and the Technical Teacher Training College. These three *hogescholen* select the board of the Foundation for Higher Education in the South of the Netherlands. Since 1993, *Hogeschool Eindhoven* has had three divisions, comprising 24 study programmes (*Studiegids Economie* 1993-1994: 15).

## 3 OVERALL EDUCATIONAL TASK AND OBJECTIVES OF THE FOUNDATION FOR HIGHER EDUCATION IN THE SOUTH OF THE NETHERLANDS

The Foundation for Higher Education in the South of the Netherlands aims to be an institution which:

- is among the top providers of professional education and training in Europe;
- is orientated towards the needs of the student and of the market;
- provides an innovative answer to the demand for preparing professionals in their fields;
- works on an interdisciplinary basis to modernise and improve the programmes offered and the methods used;
- operates against a multiform background of values and norms to allow students to reflect upon what they have learnt in light of the philosophical and social attitudes in the community;
- is organised in such a way that students and staff form part of a recognisable unit in which talents can develop and which can meet the needs of the individual and of society;
- whose large-scale structure gives it strategic/political independence and which guarantees the necessary basis for continuity.

The Foundation for Higher Education in the South of the Netherlands therefore wishes to:

- provide higher vocational and professional training for a wide variety of professions;
- provide its students with expert supervision;
- in synergy with that expert supervision, undertake commercial assignments in the field of postgraduate continuing professional education, in-service training, contract teaching;
- applied research and consultancy;
- be aimed at the European labour market;
- provide education specifically in the South of the Netherlands, with the understanding that programmes which are unique should be offered to the country as a whole.

## 4 ORGANISATIONAL STRUCTURE

The organisational structure of the Foundation for Higher Education in the South of the Netherlands is as follows:

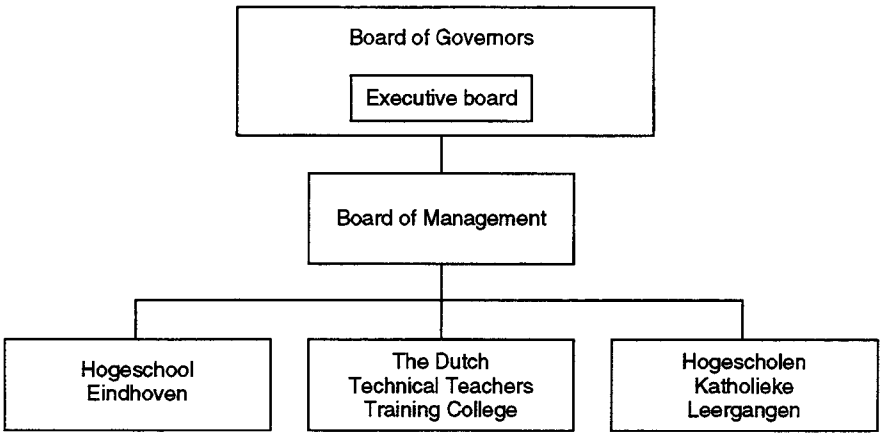


Figure 7.2: Organisational structure of the Foundation for Higher Education in the South of the Netherlands
Source: *Studiegids Economie* (1993-1994: 21)

The Board of Governors of the Foundation is formed by the executive boards of the three *hogescholen*. Authority over *Hogeschool Eindhoven* was transferred on 1 January 1992, to the Foundation for Higher Education in the South of the Netherlands, whose executive board consists of ten members of the Board of Governors.

The three Executive Boards of the three *hogescholen* together form the Board of Management. This is responsible for the day-to-day affairs of the Foundation. The Board consists of six members and its tasks are assigned in such a way that two members are always responsible for a given portfolio. They have the power to make decisions within the framework of the policy which has been laid down (*Studiegids Economie* 1993-1994: 21-22).

## 5 *HOGESCHOOL EINDHOVEN*

The most important aim of *Hogeschool Eindhoven* is to provide the best possible educational product. Central features of the quality-oriented approach are the level of expertise of the teaching staff, a personal approach to the needs of students and a policy of keeping close track of developments within the professions for which students are being trained. Internal and external training courses allow staff to gain new know-how and experience. *Hogeschool Eindhoven* ensures that students can study in a pleasant atmosphere and in this context it has chosen a personal approach to students' needs. This is expressed, for example, in the intensive personal supervision offered in the first year of the programme. In addition, a great deal of attention is devoted to teaching students to work together. The *Hogeschool* encourages social contact between students and supports of extra-curricular initiatives.

It keeps track of developments in actual professional practice through intensive contact with practitioners and by involving companies and other organisations in the teaching process, for example through guest lectures and excursions. Finally, *Hogeschool Eindhoven* has a number of specific educational goals for each specific Faculty (*Studiegids Economie* 1993-1994: 17-18).

The overall organisational structure is as follows:

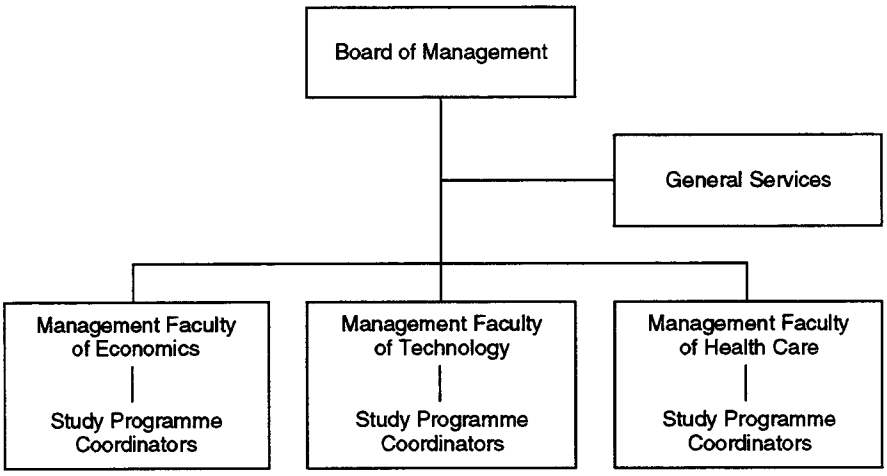


Figure 7.3: Organisation chart of *Hogeschool Eindhoven*
Source: *Studiegids Economie* 1993-1994

## 5.1 Distribution of tasks within *Hogeschool Eindhoven*

Each faculty is headed by a faculty management which makes decisions on all matters related to the faculty and which is responsible for faculty policy and the resulting activities. The faculty management is responsible to and advises the central Board of Management and the Board of Governors of the Foundation. Within the Faculty of Economics, the joint foundation year is considered as a separate organisational component, like the various study programmes.

An advisory board informs each faculty of new developments within the profession and advises them on educational matters. In the case of matters which transcend the level of the individual faculty, advisory boards can be set up to advise directly the Board of Management. Advisory committees can, if necessary, be set up at study programme level with the task of advising on the actual content of the programme (*Studiegids Economie* 1993-1994: 22-23, 89).

The central services departments of *Hogeschool Eindhoven* carry out tasks on behalf of the Board of Management and the three faculties. Final responsibility lies with the members of the Board of Management whose portfolio includes the areas of management and programme implementation.

*Hogeschool Eindhoven* has the following central services departments:

- Financial administration;
- Personnel;
- General/technical services;
- Educational facilities;
- Student affairs;
- General;
- Public relations.

## 5.2 Size

During the 1993-1994 academic year, *Hogeschool Eindhoven* had more than 1300 permanent staff:

| Staff type | Number |
|---|---|
| Teaching staff | 831 |
| Teaching support staff | 38 |
| General support staff | 448 |
| Total | 1317 |

Figure 7.4: Staff of *Hogeschool Eindhoven* as of 31 December 1994
Source: Personnel department *Hogeschool Eindhoven*

# 6 THE FACULTY OF ECONOMICS

The School of Higher Professional Education in Economics and Management (*HEAO*) opened in 1968, with three study programmes: Business Economics, Commerce, and Economics & Law. A programme in Communication Studies was added in 1978. Evening courses were added in 1980 and in 1981 the name Higher Education in Economics and Management was changed to School of Economics and Management. The study programme in Information Science for Business was started in 1986. Since the 1987, Higher Professional Education Act, all programmes in the Economics and Management Sector have a four year duration. Since August 1993, this sector has been known as the Faculty of Economics and in January 1994 the name of the programme in Economics & Law was changed to Management, Economics & Law.

## 6.1 Aims and Policy of the Faculty of Economics

The general aim of the Faculty of Economics is to provide students with training in economics which will allow them, after gaining a number of years experience, to hold down a management position in a company or other organisation.

The main aims of the Faculty's programme are to:

- give students an extensive insight into the principles and methods of economics, management, communication science and law;
- indicate the connections between these disciplines;
- apply this scientific knowledge to actual situations taken from professional practice;
- to acquire the skills which will enable the student to apply the know-how and experience gained in actual professional practice.

The policy of the Faculty of Economics is determined by social developments and specific factors influencing the relevant professions. The developments which must be taken into account are set out in the Faculty's annual development plan. They are the:

- growing importance of information science, both in professional practice and in educational methodology;
- increasing internationalisation of companies and labour markets;
- increasing importance of quality and logistics in managing a company;
- increasing importance of office automation;
- the increasing interest in environmental issues
(*Studiegids Economie* 1993-1994: 75-76).

## 6.2 Grouping of staff

Teachers of the Faculty of Economics are assigned to a study programme, within which they carry out their primary task. In addition, the teaching staff is grouped in the following departments departments:

- Architecture and Construction Engineering;
- Real Estate Management & Brokerage / Banking / Insurance;
- Business Economics;
- Commerce;
- Communication Studies;
- Dutch;
- English;
- French;
- General Economics;
- German;
- Information Science;
- Law;
- Mathematics/Statistics;
- Organisation Theory;
- Physical Education and Sport;
- Sociology/Psychology;
- Spanish (*Studiegids Economie* 1993-1994: 93).

The management of the Faculty of Economics and the co-ordinators of the study programmes are supported by the following staff departments:

- Personnel;
- Public relations and information;
- Secretarial support;
- Computerisation and information;
- Planning and administration;
- Traineeships and external contacts;
- Testing and examinations (*Studiegids Economie* 1993-1994: 93).

In the academic year 1993-1994, the Faculty of Economics had 249 staff members:

| Type of staff | Permanent | Temporary |
|---|---|---|
| Teaching staff | 157 | 29 |
| General support staff | 53 | 10 |
| Total | 210 | 39 |

Figure 7.5: Staff of Faculty of Economics as of 31 December 1994
Source: Personnel department *Hogeschool Eindhoven*

## 6.3 Co-ordination

The Representative Council of the Faculty of Economics consists of 14 members, seven members of the staff and seven students. The Council meets each month to discuss educational matters concerning the Faculty of Economics. On a number of matters, the Council's approval is required; on others it gives advice. Delegates from the Faculty Council are also represented on the Central Representative Advisory Council of *Hogeschool Eindhoven*.

Each study programme within the Faculty of Economics is headed by a director. There is a separate director for the joint propaedeutic year. The directors are responsible for matters relating to the actual content of the programme, exemptions, supplementary assignments and the supervision of final projects. The programme director draws up a plan for the curriculum which must be approved by the Dean of the Faculty. A number of programme co-ordinators have appointed deputies; these are generally assigned tasks relating to the part-time programme.

The Faculty also has the following committees:
- steering committee on quality assurance;
- steering committee on internationalisation;
- working party on positive action;
- working party on job evaluation;
- working party on minorities;
- working party on Information Science Policy.

The following groups operate at the level of the study programme:
- teaching committee;
- study programme council.

## 6.4 Number of students

The programme has both a full-time and a part-time variant. Figure 7.6 provides an overview of the number of students within the Faculty of Economics per programme during the 1993-1994 academic year.

| Students | Full-time | Part-time | Total |
|---|---|---|---|
| General foundation year | 912 | 0 | 912 |
| Economics and law (MEL) | 384 | 97 | 481 |
| Business economics | 431 | 106 | 537 |
| Commerce | 287 | 103 | 390 |
| Information science for business | 142 | 26 | 168 |
| Fiscal economics | 85 | 118 | 203 |
| Communication studies | 599 | 0 | 599 |
| Total | 2840 | 450 | 3290 |

Figure 7.6: Student numbers at Faculty of Economics in 1993-1994 academic year

## 6.5 Organisation of the programmes of the Faculty of Economics

The Faculty of Economics has six programmes of study, providing training in the following fields:

- Business Economics;
- Commerce;
- Management, Economics & Law;
- Information Science for Business;
- Taxation;
- Communication Studies.

With the exception of the programme in Communication Studies, the programmes have a joint propaedeutic year. The programme in Management, Economics & Law has two areas of specialisation: Banking & Insurance and Real Estate Management & Brokerage. The programme in Communication Studies consists of the main field of study. Within the programmes in Information Science for Business, Commerce, Communication Studies and Management, Economics & Law, it is possible for students, after their second year, to choose an international programme in European Business Studies (given in English) (*Studiegids Economie* 1993-1994: 76).

In all these programmes, students are grouped in year groups. The curricula have a linear/sequential structure and the subjects are programmed in such a way that they progress from simple to difficult.

There is a high level of 'course programming', i.e. the content of the programme is to a large extent specified by the institution. The student's freedom of choice with respect to the content of the programme is restricted. This is because the recognisability of the diploma and the way in which the programme links up with the profile of the relevant profession are seen as two important variables determining a graduate's success in finding a job. In addition, the Faculty takes the view that extensive individualisation might undermine the year group system, thus unnecessarily prolonging individual students' study duration (Goossens, 1992: 4).

## 6.6 On-the-job training and other activities

During the third and fourth years, two of the four semesters of each year are reserved for on-the-job training internships. The period of training lasts 19 weeks in each case. After completion of the on-the-job training, the student writes a report. His/her performance is evaluated by the company where the period of on-the-job training took place and by the relevant members of staff of the study programme.

Within the context of internationalisation, a large number of students go abroad each year for their on-the-job training. In addition, the Faculty of Economics aims to allow students to participate in programmes abroad which lead to both a foreign and a Dutch diploma.

## 6.7 Division of semesters during the course of study

All study programmes take four years and consist of a propaedeutic year followed by a three-year main phase (*Studiegids Economie* 1993-1994: 119).
The main phase of the programme in Management, Economics & Law consists of two components:

1 a preparatory phase in the second academic year;
2 the final examination phase, consisting of the 3rd and 4th academic years.

The 1993-1994 academic year within the Faculty of Economics consisted of 28 teaching weeks and 12 examination weeks. The academic year is divided into two semesters, each consisting of two lesson blocks of seven weeks each.

The foundation year involves a minimum of 24 lesson hours per week. The programme in the foundation year is worth 42 credit points, with each credit point standing for a study load of 40 clock hours. In the third and fourth academic years, two of the four semesters are reserved for periods of on-the-job training. Each of these periods consists of 20 weeks.

The timetable has a parallel structure, in other words different subjects are taught concurrently.

Figure 7.7 gives an overview of the various activities during the eight semesters of the programme:

| **Semester** | **1** | **2** | **3** | **4** |
|---|---|---|---|---|
| Number of weeks (teaching weeks and examination weeks) | 20 | 20 | 20 | 20 |
| Number of subjects | 11 | 12 | 10 | 11 |
| Options | Remedial subjects: business administration mathematics | Remedial subjects: business administration mathematics French or German | | |
| On-the-job training/projects | 1 project week | 1 project week | 3 project weeks | 1 project week |
| Credit points | 21 | 21 | 21 | 21 |

| **Semester** | **5** | **6** | **7** | **8** |
|---|---|---|---|---|
| Number of weeks (teaching weeks and examination weeks) | 20 | 20 | 20 | 20 |
| Number of subjects | 10 | Not applicable | 8 | Not applicable |
| Options | International graduation programme | | | |
| On-the-job training/projects | | On-the-job training | | On-the-job training |
| Credit points | 21 | 21 | 21 | 21 |

Figure 7.7 Structure of the programme in Management, Economics & Law
Source: *Studiegids Economie* (1993-1994: 144-156, 198-199)

## 6.8 Didactic methodology

Within the Faculty of Economics, modularisation is considered a suitable means of achieving quality, flexibility and differentiation. Division of curricula into standard 40-hour units is the fixed norm for the whole Faculty. The traditional system of class lessons is no longer considered to represent the most desirable approach. New groupings and new teaching methods are viewed as possible alternatives. Working in small groups, in particular, can lead to a different pattern of interaction between teacher and student. In this context, modular teaching is also seen as a means of focussing attention on teaching and thus raising the quality of the programme as a whole. Finally, accurately estimating the study load is considered to be the cornerstone of a modular study programme (Goossens, 1992: 10-11).

## 6.9 Evaluation and monitoring

By achieving a balanced spread of examinations throughout the academic year, it is hoped to distribute the study load more effectively, leading to better results. During the foundation year, there are one or more written examinations per study unit. Study units taught throughout the whole of the academic year are subject to at least three examinations. Units taught during only a single semester have at least two examinations. The other units have at least one examination. The results achieved in examinations and projects are expressed in interim grades. In general, the final mark for a study unit is a weighted average of the various interim grades.

*Second year*
Written examinations take place after each block[1]. There are two examinations per study unit, except when a study unit is taught in only a single block of seven weeks. In this case there is only one examination. For units which are taught in all blocks, there is an examination after the second and fourth blocks. For units which are only taught in two blocks, the examination is taken at the end of the relevant block. Study units which are taught during three blocks are examined after the first block and after the last of the three blocks. The interim grades achieved produce a single final mark per study unit.

*Third and fourth year*
The third and fourth years together constitute the final examination phase. A student is admitted to this phase by being promoted from the second to the third year of the programme. The criteria determining whether a student is promoted from the second to the third year are set out in the relevant regulations. Students, admitted to the final examination phase, are not evaluated again to determine whether they should move up from the third to the fourth year; this occurs automatically.

The periods of on-the-job training in the third and fourth years are evaluated by the company where the training takes place and by the Faculty.

The final examination consists of two components. One component is one or more written and/or oral tests in the final examination subjects. The test may also take the form of a project and/or practical. The final examination subjects are the core subjects, the compulsory subjects and in some cases the optional subjects. All final examination subjects are, in principle, examined at the end of each semester. The second component of the final examination is the graduation assignment, consisting of a project and/or a piece of research.

Resits and 'catch-up' examinations (for students who have missed examinations due to illness etc...) cover the material dealt with over the course of the whole year. Both types of examinations take place concurrently before the summer vacation. Students to whom the regulations on 'missed examinations' apply take any resits at the beginning of the following academic year. In the case of practicals, projects etc..., students do not have the right to a 'catch-up' examination. In cases when the student has failed to meet the requirements with respect to practicals, projects, etc..., the lowest grade (1.0) is assigned (*Studiegids Economie* 1993-1994: 127-139).

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1 A block is a period of seven weeks

External evaluation is carried out by Visitation Committees, as laid down in the relevant act of parliament. The most recent National Visitation report on the Economics sector was published in February 1992 (*HBO-Almanak*, 1993-1994: 308). The programmes for Management, Economics and Law will be visitated in 1996.

### 6.10 Additional aspects of quality assurance

Within the Faculty of Economics there is a system of integral quality assurance. Measuring activities play an important role in this system. Surveys carried out among the students are one example. The information produced by such surveys is used as the basis for measures to deal with any problems which have been identified and projects are started in order to effectuate improvements. Each study programme has its own quality assurance co-ordinator, who is responsible for overall quality assurance. The overall co-ordination within the Faculty of Economics is dealt with by a single person (*Studiegids Economie* 1993-1994: 83).

## 7 THE MODULARISATION PROJECT (SECOND PHASE: IMPLEMENTATION 1994-1995) STUDY PROGRAMME FOR MANAGEMENT, ECONOMICS AND LAW

### 7.1 Introduction

In 1987, a modularisation policy plan was set out for *Hogeschool Eindhoven* as a whole. This plan can be considered the first phase, or the macro-design, for making the curriculum more flexible. Central management and the individual faculty managements agreed to encourage modularisation as a means of raising the quality and level of differentiation of the curriculum. The following agreements have been made and apply to the *Hogeschool* as a whole:

- within each academic year there are fixed starting points, namely after the summer vacation and in January/February;
- in so far as the sectors choose a modular system, it will apply to all the study programmes;
- each module has a study load of 40 hours and an academic year accounts for 42 credit points;
- each sector appoints a representative who is charged with the task of communication and co-ordination with respect to modularisation within the *Hogeschool* and elsewhere.

The following basic principles have been formulated with respect to implementation of this policy plan:

- the aim of modularisation is to make it possible to serve the various groups of consumers more effectively and to make better use of the capacities of the teaching staff;
- the academic year is divided into 4 periods of 10 weeks; 7 of these are for teaching and 3 for excursions, examinations and 'catch-up' programmes;
- the timetable for the year is organised in the same way for the whole *Hogeschool* (*Hogeschool Eindhoven*, *Beleidslijn modulair onderwijs* [Modular teaching policy guide-lines], 1987).

At a meeting of the staff of the Programme in Economics & Law at the end of 1989, the decision was made to modularise the programme. During the 1990-1991 academic year, modularisation was a recurring item on the agenda for the programme. In 1992, the 'Modularisation: Economics & Law' project was started in order to actually introduce the new system. The aim was to produce a framework plan for modularisation which distributed the study load over the semesters in the most effective manner. This plan is to a large extent what has been defined in Chapter 4 as the meso-design of the curriculum. During this phase, the entire programme was charted and the order of the modules determined, as was the distribution of the modules over the various semesters. A start was also made in this phase by specifying the exit qualifications for the various specialisations within the study programme.

The third step is developing the modules to meet the initial aims of quality, flexibility and efficiency.

The 'Modularisation: Economics & Law' project can be seen as a pilot project for modularisation of the other programmes within the Economics & Law sector. During the 1992-1993 academic year, attention was primarily devoted to developing the framework plan for modularisation. Proposals were developed for each semester of the specialisation in Banking & Insurance and for that in Real Estate Management & Brokerage. These proposals became increasingly concrete for all concerned.

The number of students within the programme in Management, Economics & Law (*MEL*) during the 1993-1994 academic year was as follows:

| Programme in MEL | 1st year | 2nd year | 3rd year | 4th year | Row total |
|---|---|---|---|---|---|
| Full-time | – | 156 | 98<br>REMB*: 56<br>BI*: 42 | 130<br>REMB*: 68<br>BI*: 62 | 384 |
| Part-time | 24 | 19 | 23 | 31 | 97 |
| Total | 24 | 175 | 121 | 161 | 481 |

* REMB : Real estate Management and Brokerage
BI : Banking and Insurance

Figure 7.8: Student numbers within programme in Management, Economics & Law during the 1993-1994 academic year

## 7.2 Aims and organisation of the project

The activities during the 1993-1994 academic year were intended to produce a definitive framework plan for modularisation followed by the development of the various modules.

### 7.2.1 Project priorities

The priority aims of the project are to :

- produce a definitive framework plan for modularisation with the greatest possible unanimity;
- increase the 'achievability' of the programme by ensuring optimum distribution of the study load over the various semesters;
- ensure an effective linking of the study programme and the profile of the relevant profession;
- ensure that contact hours are used in the most efficient way;
- introduce a number of new teaching methods in an effective manner so as to involve students in the study process more actively;
- design the modules in such a way as to take account of these principles.

### 7.2.2 Organisation

The project was directed by Mr. A.C.M. Neggers, director of the Programme in Management, Economics & Law. Mr. E. Van Kemenade, educationalist with the Faculty of Care, provided advice on didactic matters. In consultation with Mr. A.C.M. Neggers, Mr. E. Van Kemenade, the Modularisation Project Group and the general meeting of teaching staff, R.M. Van Meel had an advisory function during the project with respect to the organisational and didactic aspects of modularisation. The modularisation project in this study programme concerns the entire main phase of the programme. Since planning the modules across the various semesters, scheduling the contact hours and distributing the study load are all matters requiring agreement between all concerned, careful co-ordination and consultation were essential. The team-work between the different parties involved is represented in Figure 7.9:

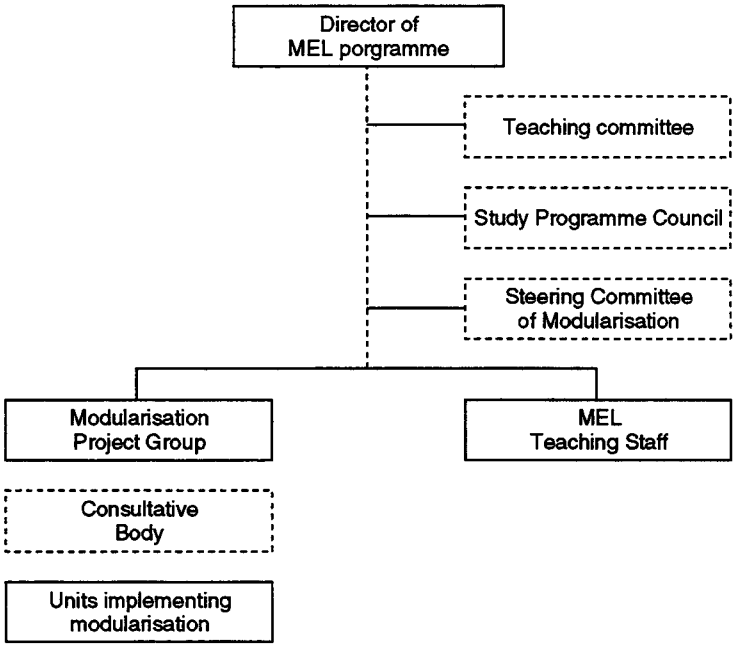


Figure 7.9: Parties involved in the Modularisation Project 1993-1994, Programme in Management, Economics & Law

The Teaching Committee consists of four members of the teaching staff and is charged with the task of advising on policy and teaching development with respect to modularisation and quality assurance. The Study Programme Council has various powers on the basis of the regulations governing representation within *Hogeschool Eindhoven.* The Council consists of four elected members of the teaching staff and four elected student representatives. The Study Programme Council has a say in such matters as specification of the curriculum and changes to it, the examination regulations and the plan of activities of the study programme.

### 7.2.3 Planning

The following schedule for the implementation of the project was worked out in late 1993:

15 and 22 November 1993: Teaching committee: Framework plan for modularisation. Co-ordinators and teaching staff examine the specific subjects for their specialisation and put forward suggestions for changes to the study programme director.

22 November 1993: Modularisation Project Group
Agenda: the alterations suggested by the teaching committee and the co-ordinators.

26 November 1993: Study Programme director + Teaching Committee + Modularisation Project Group. Agenda: Determination of the revised framework plan for modularisation.

29 November 1993:
Distribution of the revised report among teaching staff.

From 19 to 24 December 1993:
In consultation with Mr. E. Van Kemenade, the modularisation project group determines which elements are a standard component of a module and in what way they should be presented.

January 1994:
General meeting of teaching staff to discuss modularisation and the Teaching and Examination Regulations.

January 1994:
Half-day training session (for all teaching staff) on writing modules, directed by Mr. E. Van Kemenade.

January 1994:
Mr. A.C.M. Neggers writes a memorandum on planning issues and the way in which teaching staff should be deployed.

January 1994:
All teaching staff begin developing modules.

May 1994:
Half-day training session (for all teaching staff) on writing modules, directed by Mr. E. Van Kemenade.

May 1994:
Mr. A. C.M. Neggers discusses framework plan for modularisation with future second-year students.

June 1994:
Mr. A.C.M. Neggers and R.M. Van Meel: evaluation and follow-up discussion of the 1993-1994 project.

## 7.3 Exit qualifications for the programme

The general principle is that *HBO* graduates should be able to solve problems in the profession for which they have been trained, making use of the scientific theories relevant to the field. This means that they can recognise problems, describe them and analyse them. They can generate solutions, weigh the pros and cons of each, and make a choice between them. Graduates have built up knowledge and expertise in the area of economic theory and practice. This includes national and international economic issues, questions of profit and costs, problems of an administrative and organisational nature, investment selection, commercial policy development and the provision of information. They have also acquired knowledge and expertise on the legal consequences of economic activity. This involves matters of private, public and fiscal law.

The specific aims of the Programme in Economics & Law are to inculcate know-how and expertise with respect to the legal consequences of economic activity, such as:

- matters of private law, such as commercial, property and labour law;
- matters of public law, such as constitutional and administrative law;
- matters of fiscal law, such as sales tax and income tax.

The aims of the first specialisation programme in Real Estate Management & Brokerage are that the graduate:

- has the ability to act as a real-estate agent, property developer, valuer or real estate;
- policy officer in public service or in the world of business;
- is familiar with the theory and practice of renting, buying, selling and management, valuation.

The second specialisation programme in Banking & Insurance has the following aim:

- a graduate should be competent to discuss with clients and internal experts on such matters as business credit facilities, mortgages, stockbroking, foreign payment transactions, risk analysis, property insurance and life insurance.

In order to increase the recognisability of the various programmes, profiles have been worked out for all specialisations with the relevant exit qualifications. Using a matrix, an overview has been made of the contributions of the various subjects to the profile. Examples of such a diagnosis are described in the case studies on *Hogeschool 's-Hertogenbosch* and the *Ecole Supérieure de Commerce* in Lille. These are omitted here because the high degree of agreement between them.

## 7.4 The framework plan for modularisation of the programme

The framework plan for modularisation indicates the weekly distribution of contact hours per semester and per subject. The plan includes a variant for the specialisation in Real Estate Management & Brokerage and for that in Banking & Insurance.

The framework plan for modularisation aims to bring about the best possible distribution of the study load over the six semesters of the programme after the foundation year. Each semester is divided into two periods of 10 weeks, 7 of which are devoted to teaching and 3 to excursions, examinations and 'catch-up' programmes.

An extract of the framework plan for modularisation for the third and fourth semesters of the specialisation in Real Estate Management & Brokerage is given below. This plan was the result of careful negotiation between the programme director and all the consultative bodies involved in modularisation of the programme. Changing the scheduling system is difficult in practice because the logistical planning of personnel and material resources requires a large number of factors to be taken into account simultaneously.

**Framework plan for modularisation: semester 3 REMB***

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| I | Introductory project | | | | | | | | | |
| 1 | | | | | | | | | | |
| 2 | Professional | | PRLA1 | PULA1 | FILA1 | GE1 | BE2 | CO1 | COSK1 | INSC1 |
| 3 | orientation B&I | | | | | | | | | |
| 4 | | | | | | | | | | |
| 5 | | | | | | | | | | |
| 6 | 4 contact hours | | 2 ch | 2 ch | 2 ch | 2 ch | 2 ch | 2 ch | 2 ch | 2 ch |
| 7 | | | | | | | | | | |
| P | Project weeks | | | | | | | | | |
| P | | | | | | | | | | |
| 1 | | | | | | | | | | |
| 2 | COSK2 | SOSK2 | PRLA1 | PULA1 | FILA1 | GE1 | BE1 | CO1 | MAOR1 | INSC1 |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |
| 5 | | | | | | | | | | |
| 6 | 2 ch | 2 ch | 2 ch | 2 ch | 2 ch | 2 ch | 2 ch | 2 ch | 2 ch | 2 ch |
| 7 | | | | | | | | | | |
| T | | | | | | | | | | |
| T | Examination period | | | | | | | | | |
| T | | | | | | | | | | |

* Study units for semester 3:
Law: Private Law 1 (PRLA1), Public Law 1 (PULA1), Fiscal Law 1 (FILA1)
Economics: General Econ. 2 (GE1), Business Econ. 2 (BE2), Commerce 1 (CO1)
Management: Info. Sci. 1 (INSC1), Management and Organisation 1 (MAOR1),
Communication Skills 1 (COSKI1)
Practical: Project weeks, Introductory project, Communication Skills 2 (COSK2), Social Skills 2 (SOSK2)
Professional Orientation: REMB
Weekly contact hours: 20

**Framework plan for modularisation: semester 4 OGM***

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | |
| 2 | BROK1 | ARCH1 | PRLA2 | PULA2 | MAOR3 | GE1 | BE2 | CO2 | COSK3 | INSC2 |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |
| 5 | | | | | | | | | | |
| 6 | 2 ch | 2 ch | 2 ch | 2 ch | 2 ch | 2 ch | 2 ch | 2 ch | 2 ch | 2 ch |
| 7 | | | | | | | | | | |
| P | Project weeks | | | | | | | | | |
| P | | | | | | | | | | |
| 1 | | | | | | | | | | |
| 2 | BROK1 | ARCH1 | PRLA2 | PULA2 | MAOR2 | GE1 | BE2 | CO2 | CSK3 | INSC3 |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |
| 5 | | | | | | | | | | |
| 6 | 2 ch | 2 ch | 2 ch | 2 ch | 2 ch | 2 ch | 2 ch | 2 ch | 2 ch | 2 ch |
| 7 | | | | | | | | | | |
| T | | | | | | | | | | |
| T | Examination period | | | | | | | | | |
| T | | | | | | | | | | |

* Study units for semester 4:
Law: Private Law 2 (PRLA2), Public Law 2 (PULA2), Communication Skills 2 (COSK2)
Economics: General Econ. 2 (GE2), Business Econ. 2 (BE2), Commerce 1 (CO1)
Management: Brokerage 1 (BROK1), Architecture 1 (ARCH1),
Management and Organisation 2 (MAOR2)
Practical: Project weeks, Information Science 2 (INSC2), Information Science 3 (INSC3),
Social Skills 2 (SOSK2)
Weekly contact hours: 20

Figure 7.10: Framework plan for modularisation of the third and fourth semesters of the specialisation in Real Estate Management and Brokerage

## 7.5 The design of module work books

In order to improve the 'achievability' of the programme, it has been agreed that all module workbooks should be developed according to a common blueprint. During the first phase of the modularisation programme, a manual for developing module workbooks was developed indicating what a module workbook should look like.

## 7.6 Example of a module plan

The manual for developing module workbooks was sent to all members of the teaching staff, together with a completed module as an example.

During the two general meetings of the teaching staff, various important aspects of preparing a module workbook were discussed. The designs submitted showed that the suggested working method was practicable for most members of staff.

As an illustration, the module plan for Information Science 1 is given below:

| | |
|---|---|
| 1. Study programme | Management, Economics and Law |
| 2. Name of module | Information Science 1 |
| 3. Content | Database development, information management and datacommunication |
| 4. Study load | 80 hours of study |
| 5. Teaching method | An average of 2 contact hours per week in the form of tutorials and computer practicals |
| 6. Entry level | Foundation year Information Science |
| 7. Teaching staff | H.W.J.M. Goossens |
| 8. Examination type | 20% of the credit points are for assignments submitted and for attendance at practicals; the other 80% are for the written examination |
| 9. Compulsory for | MEL students |
| 10. Compulsory literature | Module work book Information Science parts A and B |

| Week | Topic | With whom | Where | Study hours | Super-vision |
|---|---|---|---|---|---|
| 1 | Introductory programme | group | computerroom | 1.5 | yes |
| | Short assignment | pair | computerroom | 0.5 | yes |
| | Study theory in reader | individual | at home | 3 | no |
| 2 | Discussion of assignment and theory: information systems | group | computerroom | 1.5 | yes |
| | Short assignment | pair | computerroom | 0.5 | yes |
| | Study theory in reader | individual | at home | 2.5 | no |
| 3 | Discussion of assignment and theory: data analysis | group | computerroom | 1 | yes |
| | Short assignment | pair | computerroom/ at home | 1.5 | yes/no |
| | Study theory in reader | individual | at home | 2.5 | no |
| 4 | Discussion of assignment and theory: normalisation | group | computerroom | 1 | yes |
| | Short assignment | pair | computerroom/ at home | 1.5 | no |
| | Study theory in reader | individual | at home | 2.5 | no |
| 5 | Discussion of assignment and theory: normalisation | group | computerroom | 1 | yes |
| | Assignment | pair | computerroom/ at home | 2 | yes/no |
| | Study theory in reader | individual | at home | 2 | no |
| 6 | Discussion of assignment and theory: integration | group | computerroom | 1 | yes |
| | Assignment | pair | computerroom/ at home | 2 | yes/no |
| | Study theory in reader and assignment | individual | at home | 2 | no |
| 7 | Discussion of assignment and theory: interaction analysis | group | computerroom | 1 | yes |
| | Assignment | pair | computerroom/ at home | 2 | yes/no |
| | Study theory in reader and assignment | individual | at home | 2 | no |

| Week | Topic | With whom | Where | Study hours | Super-vision |
|---|---|---|---|---|---|
| 8 | Discussion of assignment and theory: database | group | computerroom | 1 | yes |
| | Assignment | pair | computerroom/ at home | 0.5 | yes |
| | Study theory in reader and assignment | individual | at home | 3 | no |
| 9 | Discussion of assignment and theory: database | group | computerroom | 1 | yes |
| | Assignment | pair | computerroom/ at home | 1 | yes |
| | Study theory in reader and assignment | individual | at home | 3 | no |
| 10 | Discussion of assignment and theory: SQL | group | computerroom | 1 | yes |
| | Assignment | pair | computerroom/ at home | 1 | yes |
| | Assignment | pair | at home | 1 | no |
| | Study theory in reader and assignment | individual | at home | 2 | no |
| 11 | Discussion of assignment and theory: SQL | group | computerroom | 1 | yes |
| | Assignment | pair | computerroom | 1 | yes |
| | Assignment | pair | at home | 1.5 | no |
| | Study theory in reader and assignment | individual | at home | 1.5 | no |
| 12 | Discussion of assignment and theory: SQL | group | computerroom | 1 | yes |
| | Assignment | pair | computerroom/ at home | 3 | no |
| | Study theory in reader and assignment | individual | at home | 1 | no |
| 13 | Discussion of assignment and theory: SQL | group | computerroom | 1 | yes |
| | Assignment | pair | computerroom/ at home | 3.5 | no |
| | Study theory in reader and assignment | individual | at home | 1 | no |
| 14 | Discussion of assignment and summary of material to be examined | group | computerroom | 2 | yes |
| | Preparation for examination | individual | at home | 13 | no |

Figure 7.11: Modular plan (Information systems 1, Programme in Management Economics & Law, *Hogeschool Eindhoven*)

## 7.7 Consequences for the teaching staff

More efficient use of contact hours requires adjustment on the part of teaching staff. Didactic methods to encourage students to work more independently were dealt with extensively during the general meetings of staff. After these sessions, it was decided that didactic assistance should be provided, informal contacts with members of the teaching staff having indicated that they felt this was necessary. It is therefore remarkable that the number of teachers who actually contacted the relevant advisers for assistance in developing their modules was very small.

During the general sessions, the majority of the teaching staff indicated that they were prepared to work in the direction of the proposed policy and a minority displayed a certain amount of reserve, particularly where the reduction in the number of contact hours was concerned. With this scheduling system, teachers have a greater degree of freedom to make use of contact time in the form of shorter sessions with smaller groups or in a more concentrated fashion in order to carry out specific assignments. It is possible to break thorough the traditional lesson pattern and to make use of more interactive types of lessons. It is important to encourage use of these possibilities over the coming years.

## 7.8 Evaluation of the project and prospects for the future

This project was carried out according to an approach whereby a number of agreements with respect to greater flexibility were first made for the institution as a whole. The framework plan for modularisation was then worked out which shaped the project to a great extent. The spacing of learning activities over the course of the programme is an important factor in improving its 'achievability'. Modifications of the distribution of the study load and the scheduling of modules over the different semesters is a complicated matter from the point of view of organising the personnel. Some modules are presented within various specialisations while others are not; contact hours must be scheduled at the right moments; it must be possible to carry out the plans with the available staff, etc.. Since many types of interdependence are involved, this meso-phase entails a great deal of consultation and agreement. Developing modules is the third step undertaken with a great deal of care and preparation. With this, the second phase of the modularisation project can be considered complete. Integrative modules will be developed. In the future in order to enhance the cohesion between different disciplines. This didactic structure offers many possibilities for organising programmes leading to a double diploma. These efforts are seen as a preparation for co-operation with other institutions, both in the Netherlands and in the European context.

# 8 CONCLUSIONS

The way in which all the necessary activities are planned, taking into account the availability of the various resources facilities, appeared to be crucial to the implementation of a more flexible learning environment. During this project, for example, a great amount of time and energy was devoted to the framework plan for modularisation. After charting the specialisation in Banking & Insurance and that in Real Estate Management & Brokerage, an attempt was made to achieve the best possible balance for the way in which the semesters were to be divided up, with special regard for the deployment of all members of staff concerned.

The relevant literature seldom deals with these logistical aspects of flexibilisation, but in practice they turn out to be very important. Introducing a block system for a semester or splitting it up into project weeks requires co-ordination between the various different specialisations and possibly also between the various study programmes. Altering the planning structure can hardly ever be carried out by a single study programme because staff often work within more than one programme, so that this may lead to major planning difficulties. It is, therefore, important that the way in which the school year is divided up is centrally decided upon for the whole institution.

It was striking that hardly any members of the teaching staff made use of the didactic assistance offered, even though informal contacts during the general sessions indicated that there was a need for this. Many reasons can be suggested for this and it would be interesting to know precisely why there is this contradiction.

As pointed out in the description of the project, the new module framework makes it possible for teachers to organise their contact hours in a different manner. Teaching large groups of students in classes is only one of many options available within this new system. Should only very restricted use be made of these options, a solution might be to investigate the value to the programme of a number of alternative teaching methods and to draw up a plan of action to encourage their introduction.

# CHAPTER 8
# CASE *HOGESCHOOL 'S-HERTOGENBOSCH*

Institution of Higher Professional Education
Study programme of Business and Languages

## 1 INTRODUCTION

*Hogeschool 's-Hertogenbosch* is organised on the basis of a system of study programmes. There are 15 programmes with more than 40 different specialisations (majors). The programmes are:

- Art and Education;
- Building and Architecture;
- Civil Engineering;
- Mechanical Engineering;
- Electrical Engineering;
- Industrial Education and Management Science;
- Advanced Computer Science;
- Environmental Technology;
- Social Work and Social Services;
- Cultural and Social Education;
- Personnel and Work;
- Business Economics;
- Commerce;
- Public Administration;
- Business and Languages.

These study programmes and the associated support and administrative services are located in a number of buildings in and around the centre of 's-Hertogenbosch. The Academy of Art and Design, the Institute of Technology and the Institute for Social Work each have their own building. The Institute of Economics and Management is spread over three different buildings. Preparations for the opening of a new building are in full swing: the first phase of the building will be opened in the course of the 1994/1995 academic year (*Hogeschool 's-Hertogenbosch, Studiegids HEAO* [Student Guide], 1993-1994:8)

## 2 BACKGROUND

The present *Hogeschool 's-Hertogenbosch* is the result of the amalgamation in 1987 of the Institute of Technology, the Institute of Economics and Management (*HEAO*), the Art Academy and the Academy for Social Work.

## 3 OVERALL EDUCATIONAL TASK AND OBJECTIVES

The objective of the *Hogeschool* is to encourage and provide higher professional education as defined by the higher Education and Research Act *(WHW)*, to provide services to the community and to carry out research for the purposes of the programme in relation to the professions for which students are being prepared. In this respect the *Hogeschool* aims to facilitate the personal development and the social functioning of its students and graduates. More specifically, *Hogeschool 's-Hertogenbosch* aims to:

- make a clear contribution to higher education in the region;
- adopt a student-oriented approach;
- adopt a small-scale approach;
- provide high-quality programmes;
- adopt an open attitude with respect to new developments;
- offer programmes which are suited to the actual demands of professional practice and which take account of developments in the region (*Studiegids HEAO* 1993-1994: 8).

## 4 ORGANISATIONAL STRUCTURE

As of August 1992, the organisational structure set out in Figure 8.1 applies within *Hogeschool 's-Hertogenbosch:*

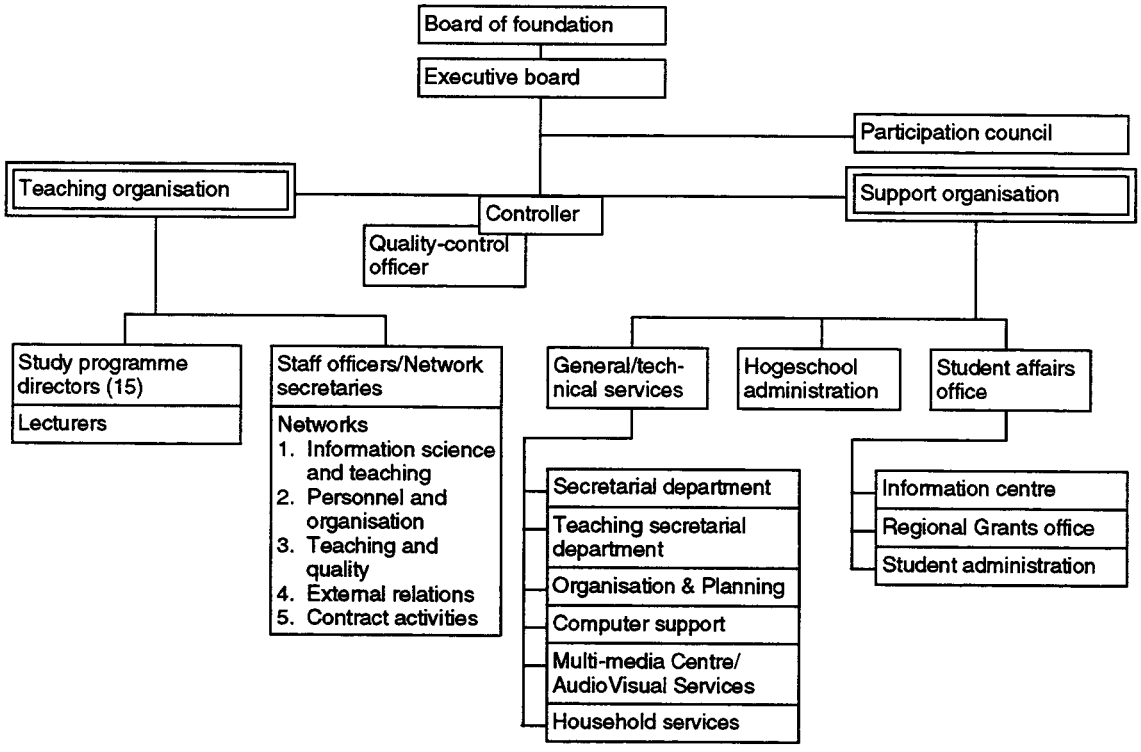


Figure 8.1: Organisational structure of *Hogeschool 's-Hertogenbosch*
Source: *Hogeschool 's-Hertogenbosch, Studiegids* HEAO (1993/1994: 10)

The *Hogeschool* has two levels of management: the Executive Board and the Study programme directors. The core idea is that the study programmes are the pivot of the organisation. Each study programme has its own tasks and responsibilities, with co-operation in a number of common areas being arranged between the study programmes by means of co-operation contracts (*Hogeschool 's-Hertogenbosch: Een mozaïek van kwaliteiten*, 1992: 9).

## 4.1 Distribution of tasks

The Study programme director is responsible for steering the study programme, in the sense of developing its educational philosophy, programming the curriculum and seeing to the provision of courses. In practice the Study programme director manages the implementation of the programme and services in the field of teaching. In addition, the programme director plays an important role in gearing the programme to the students' abilities and to the demands of the labour market.

The Study programme director gives instructions to the senior lecturers and the project group or groups. In this function, the Study programme director participates in networks with other Institutions for Higher Professional Education and in management consultations within his/her own institution as well with the teaching staff, with students and with the advisory body. Each study programme has an advisory body which concerns itself with ensuring that the programme, the educational profile and the actual practice within the relevant profession are geared to one another.

The Executive Board concerns itself primarily with developing the strategy of the *Hogeschool* as a whole and of the various different programmes; it encourages synergy between the programmes and chairs the various networks.

The Executive Board sees to the implementation of the policy of the institution, and manages the institution by means of the budget, the annual report and the plans for teaching, staff and accommodation (*Hogeschool 's-Hertogenbosch: Een mozaïek van kwaliteiten,* 1992).

## 4.2 Grouping of staff

As can been seen from the organisational structure diagram (Figure 8.1), the educational organisation of the *Hogeschool* is based on a system of study programmes and networks. The *Hogeschool* does not have either departments or sectors. The teaching staff and the support staff are assigned to one of the study programmes within the institution.

## 4.3 Size

As of November 1993, the *Hogeschool* had a total staff of 411, distributed as follows:

| **Teaching staff** | **Full-time** | **Part-time** |
|---|---|---|
| Permanent | 126 | 77 |
| Temporary | 13 | 43 |
| Total | 139 | 120 |
| **Non-teaching staff** | **Full-time** | **Part-time** |
| Permanent | 79 | 40 |
| Temporary | 14 | 19 |
| Total | 93 | 59 |
| Total final | 232 | 179 |

Figure 8.2: Staff of *Hogeschool 's-Hertogenbosch* during the 1993-1994 academic year

## 4.4 Co-ordination

The teaching staff is distributed over 15 study programmes. The study programme's core focus of orientation is the professional practice and the professional profiles for the domains on which it provides training. Each study programme has an advisory body which concerns itself with the interplay between the programme, the educational profile and actual professional practice. Periodic consultations (per programme) with student representatives provide another opportunity for getting feedback on this match. The co-operation contracts between the study programmes deal primarily with executive matters which are important for several study programmes.

Networks are formal cooperative structures within the different fields, which regards both content and administration (Figure 8.1). Each study programme is represented, either directly or indirectly, within each network. A member of the Executive Board chairs the network. The relevant member of staff acts as executive secretary to the network. The networks are intended to facilitate mutual co-operation and support between study programmes in relation to a specific topic (*Hogeschool 's-Hertogenbosch: Een mozaïek van kwaliteiten,* 1992: 30).

At the level of the *Hogeschool* as such, there is a system of management consultation, involving all the programme co-ordinators and the Executive Board. Depending on the subjects on the agenda, other members of staff also take part in the consultations, which as a rule take place once a month. The management consultations are primarily of a guiding and decision-making nature. In addition, they have a platform function (communication, forming opinion). Together with the Executive Board, the Head of the administrative department of the *Hogeschool*, the Head of the student affairs department, the manager of the general and technical services department and the Controller are responsible for the running of the support departments.

## 4.5 Students

At the end of 1993, the *Hogeschool* as a whole had the following student population:

| | |
|---|---|
| Full-time | 4277 |
| Part-time | 456 |
| Total | 4733 |

Figure 8.3: Number of students at *Hogeschool 's-Hertogenbosch* during the 1993-1994 academic year
Source: Internal information *Hogeschool 's-Hertogenbosch*

The 's-Hertogenbosch *HEAO* started in 1982 with 120 students; it currently has more than 1900 students (*Studiegids HEAO* 1993/1994: 32).

## 4.6 Quality control

In order to implement the policy of the *Hogeschool* in the area of quality control, a formal structure has been set up for co-ordination between the various departments. The following table indicates who is responsible, and in what manner, for a number of specific aspects.

| Quality control | SR | S | HS |
|---|---|---|---|
| Evaluation/promotion | P | C | M |
| Self-evaluation | P | C | M |
| Information systems with respect to quality | P | C | M |
| Reporting | P | C | M |

Figure 8.4: Distribution of tasks and Co-ordination with respect to quality control
Source: *Hogeschool 's-Hertogenbosch: Een mozaïek van kwaliteiten* (1992: 9)

Abbreviations:
SP: study programme
S: co-operation between study programmes
HS: *Hogeschool*
P: primary responsibility
M: co-responsibility
C: contract responsibility

External quality control is dealt with by the Visitation Committee, as laid down by law. In February 1992, a final report was produced on all study programmes in the Economics sector.

# 5 HIGHER EDUCATION IN ECONOMICS AND ADMINISTRATION

Higher Education in Economics and Administration (*HEAO*) at *Hogeschool 's-Hertogenbosch* consists of the study programmes Business Economics, Commerce, Public Administration, and Business and Languages. The *HEAO* is intended to provide broad training in business economics for future management staff. In order to achieve this, emphasis is placed on the:

1. provision of relevant combinations of subjects;
2. stimulation of insight into the fundamentals of the various subjects studied;
3. clarification of the interconnections between these subjects;
4. cultivation of abilities necessary to enable the student to apply his/her experience and insight in concrete situations;
5. the provision of supervision and training to enable the student to develop his/her talents so as to function optimally within society.

If these aims are in fact achieved, graduates of the programme will have the necessary skills and expertise at their disposal to be able to keep up with developments in actual professional practice. This will enable them, within a period of some five to ten years, to grow towards the higher-level posts for which *HEAO* provides training.

During the 1993-1994 academic year, 1971 full-time and 199 part-time students were registered at the *HEAO*. In view of the fact that this project restricts itself to the study programme in Business and Languages, the following sections will deal exclusively with that programme.

## 5.1 Exit qualifications for the Business and Languages programme

Besides training in oral and writing skills in more than two languages, students in this study programme choose a solid programme of training in business. During the programme, they also deal with international aspects of trade and industry.

The exit qualifications can be categorised as belonging to one of the following three domains:

- knowledge and insight;
- professional skills;
- professional attitude and social skills.

*Knowledge and insight*
Among the other skills they have acquired, graduates are able to communicate in three modern languages with external business contacts about the economic, commercial and legal aspects etc... of international business affairs, both orally and in writing. They are familiar with organisational structures and with the manner in which communication takes place within them in an international context. They have a knowledge of the techniques of business economics with respect to drawing up annual reports, financing export transactions etc... They are able to analyse and evaluate financial reports and calculations produced by others.

They have a knowledge of the legal aspects of international business practice. They are familiar with the techniques of logistics and marketing, are aware of developments within the field of telematics and have knowledge and experience of a number of computer applications.

*Professional skills*
Amongst other skills, graduates of the programme are competent, both independently and as part of a team, in carrying out business transaction with both internal and external foreign contacts in three modern languages.

They are able to advise management or a company as to the export possibilities in foreign markets. They have the skills necessary to carry out market research abroad, to engage in buying and selling commodities and are able to manage an export organisation. They are able to provide reports and presentations in three modern languages. They are also able to keep abreast of developments in the field of telematics and to assist in implementing them.

*Professional attitude and social skills*
In order to fulfil their role as 'intermediaries' between business companies and foreign contacts, graduates of the programme have an interest in foreign countries and their cultures, are skilled in languages and communicative, are able to gain a feel for or to imagine themselves in the role of the other party and are alert to such matters as exchange, relationships and reputations as connected elements in international business practice.

## 5.2 Educational organisation of the programme

Since the 1991-1992 academic year, the curriculum for this programme has been divided into study units with a standard study load of 40 hours per module. For every 20 contact hours, the student is assumed to carry out 20 hours of independent study. The organisation of the programme is based on the year group system. Within the Business and Languages programme, the contents of the course and the order in which the various components are studied are to a large extent predetermined for the student. The material is arranged in linear/sequential order; in other words, the various subjects are taken consecutively, in order of increasing difficulty. No specific areas of specialization have been defined for the Business and Languages programme. It is possible, however, for students in their final year to give their course of study a personal direction in the form of 10 modules which they choose for themselves during their seventh and eighth semesters.

## 5.3 On-the-job training and other activities

The fifth and eighth semesters of the programme are reserved for special activities. Students undertake a period of on-the-job training within a company, or study abroad for one semester and carry out a graduation assignment.

The graduation assignment is intended to enable the student to:

- learn how to apply what they have learnt;
- learn how to use and to integrate this knowledge within a complex situation;
- learn how to apply the knowledge and skills he/she has acquired within other situations.

The graduation assignment must be approved in advance by the member of staff who is to supervise it. Within the company, the student is assigned to a mentor whose function is to assist in formulating the assignment and to set out the precise preconditions which the company considers important.

## 5.4 Division of semesters during the course

The programme takes four years and consists of a foundation year followed by a three-year main phase. The academic year is 42 study weeks of 40 clock hours. In order to calculate the study load, the total number of study hours is divided into contact hours and non-contact hours. For each contact hour, it is assumed that the student will engage in independent study on a 1:1 basis during the weeks when teaching is provided.

The study programme for each semester is divided into three study units, two of them primarily focussed on the labour market and one with a more general orientation. A study unit is a coherent group of subjects. Credits are awarded for each study unit on the basis of the student's achieving satisfactory, clearly-defined results.

All subjects (approximately 14) run parallel. The number of subjects dealt with per day varies between four and six. There are 14 x 2 contact hours per subject per semester. During the remaining weeks of the academic year, students are involved in projects or prepare themselves for their examinations.

The following table provides an overview of all components and activities within the programme:

| **Semester:** | **1** | **2** | **3** | **4** |
|---|---|---|---|---|
| Number of teaching weeks | 14 | 14 | 14 | 14 |
| Number of subjects | 12 | 12 | 10 | 11 |
| Options | Basic business administration mathematics/ statistics general economics | Basic business administration | | |
| On-the-job training/projects | Project | Project | Project | Project |
| Credits | 21 | 21 | 21 | 21 |

| **Semester:** | **5** | **6** | **7** | **8** |
|---|---|---|---|---|
| Number of teaching weeks | 14 | 14 | 14 | 14 |
| Number of subjects | – | 7 | 7 | – |
| Options | | Optional courses | Optional courses | |
| On-the-job training/projects | On-the-job training/ study abroad | Project | Project | On-the-job training/ study abroad |
| Credits | 21 | 21 | 21 | 21 |

Figure 8.5: Structure of the programme in Business and Languages
Source: *Hogeschool 's-Hertogenbosch*, Programme in Business and Languages, Structure of Programme, Examination Regulations, Quality Control (1993)

As mentioned previously, the first and second semesters make up the foundation year; the other semesters are part of the main phase of the programme.

## 5.5 Didactic methodology

Contact time can be subdivided into lectures and exercises or practicals. The intention of the lectures is to introduce the material, to indicate the main outlines, to explain connections and to assign work for independent study. Half the material is provided by the lecturer and the other half via the material assigned.

The aim of the exercises is twofold. Their primary purpose is to provide an explanation and insight with respect to the content dealt with during the lectures; their secondary aim is to inculcate the expertise needed for actual professional practice. Typically, the various economics subjects requiring extensive mathematical calculations and statistics are stumbling blocks. The whole range of students in the programme find these subjects difficult, not merely one particular type of student.

The following table gives the number of students who began the foundation programme in Business and Languages in the 1993-1994 academic year.

Students have been categorised according to their previous education:

| | |
|---|---|
| Previous education: HAVO (upper general secondary education and in some cases other types of education) | 68 |
| Previous education: VWO (pre-university education and in some cases other types of education) | 49 |
| Other | 25 |
| Total | 142 |

Figure 8.6: First-year students of Business and Languages according to previous education
Source: Internal information *Hogeschool 's-Hertogenbosch*

As Figure 8.5 shows, a number of optional subjects are offered during the first and second semesters for students who lack the necessary background in the areas of mathematics, statistics, general economics and business administration. The intention is that after passing his/her first-year examination each student has, in principle, enough expertise to be able to tackle the main phase, regardless of the type of education he/she has had before entering the *HEAO*.

## 5.6 Evaluation and monitoring

The academic year is divided into two semesters of 14 weeks each. Each semester concludes with an examination period. There is also an examination period halfway through the first semester. After each examination period, the student receives a list of his/her results for the previous semester. If the student has failed to gain all the credits for the semester, he/she is still permitted to participate in the following semester as long as the study load for the current semester which he/she has failed to complete does not exceed 200 hours of study *(SBUs)*. Students who do not meet this requirement remain, for administrative, purposes in the phase for which they have yet to meet all the necessary requirements. They are, however, permitted to take subjects from the following semester. There is no provision for 'quicker' students to finish off their programme more rapidly than the norm. The 'Progress' computer program is used to record student progress.

A student who has gained 42 credits for the study units in the first year is deemed to have passed the first-year examination.

Students gain a diploma for the programme in Business and Languages by participating successfully in the examinations for all the study units making up the curriculum, including two of the special activities provided for during the fifth and the eighth semesters. One of these activities consists of a period of on-the-job training, approved by the programme staff, which takes place within the Netherlands or abroad, the second is a graduation assignment to be carried out within a business company.

When a student has gained a total of 168 credits for these study units, he/she has fulfilled the requirements for graduation.

In some subjects a partial examination is made during the semester, depending on the progress of the teaching. This examination may consist, for example, of an oral explanation of an assignment which the student has carried out, participation in a working group, participation in a practical, a presentation, the submission of a term paper etc... Resits for such subjects are only possible in a restricted number of cases.

Other forms of assessment are:

- observation of behaviour. However, this type of evaluation has no formal status;
- monitoring of participation. This is only done in the case of group work;
- self evaluation testing. These are only possible to a very restricted extent.

## 6 THE MODULARISATION PROJECT (PHASE TWO: IMPLEMENTATION 1994-1995)

In 1992, the curriculum for this programme was divided up into modules with a standard study load of 40 hours. During the 1993-1994 academic year, with the agreement of the teaching staff and students, the number of contact hours was reduced from 24 hours per week to 20 hours. Briefly, the intention is to achieve the best possible co-ordination between the course and the professional profile and at the same time to encourage students to study more independently. It is hoped in this way to increase both quality and efficiency. The following sections deal in more detail with the way in which this second phase of modularisation will be put into practice.

### 6.1 Aims and organisation of the project

Bearing in mind the chosen policy and the new guide-lines, the intention is for the programme in Business and Languages to achieve the following aims during the coming years:

- to achieve at effective co-ordination between the curriculum and the exit qualifications and professional profile;
- to increase the 'achievability' or 'practicability' of the programme offered (Wijnen et al., 1992);
- to tackle deficiencies more effectively;
- to precisely define the entry requirements per module in such a way as to take account of students from a wide variety of educational backgrounds;
- to raise the level of self-motivation and independent learning among students;
- to design new roles for teaching staff;
- to bring about savings, specifically to reduce operating costs to 85% of current expenditure.

### 6.1.1 Priorities for this project

Taking the above aims as the basis, the decision has been made to set out the following priorities:

- to produce an inventory of the exit requirements which are achieved by the various modules and to determine the extent to which these exit requirements are in fact achieved;
- to effectuate a good distribution of study material over the different semesters;
- to design a standardised presentation for each module;
- to construct modules in such a way as to encourage greater self-motivation on the part of students;
- to precisely calculate the study load (in hours) per module;
- to discuss with a number of members of the teaching staff the possibility of taking on a number of less conventional roles: tutor, supervisor, initiator. This will be done so as to use contact hours in a manner compatible with the desire for greater self-motivation on the part of students;
- to provide effective assistance to a number of members of the teaching staff in constructing a module.

Because a new approach has more chance of success if it is introduced at the beginning of the programme, it has been decided that the foundation year subjects should be dealt with first so as to allow new students to become used to the new approach from the very start. The relevant modules will be used from September 1994 onwards.

### 6.1.2 Organisation

This project was directed by Mr. Henk J. A. Kox, Study programme director for the Economics and Languages programme, in co-operation with Rosita M. Van Meel (Centre for Innovation and Educational Technology, Open university, Heerlen). From the start of the project, the Executive Board of the *Hogeschool* was kept fully informed of the project, for which it expressed its support. The *Hogeschool* has chosen to have seven members of the teaching staff construct modules in the various subjects. These modules can then be used as examples by other members of staff. The group of lecturers who participated in constructing the first modules can be considered representative: their views on modularisation and other aspects of educational innovation varied from enthusiastic to sceptical. The staff making up the development group teaches the following subjects: English, German, French, Introduction to Management, Statistics, Communication Skills and Business Economics.

### 6.1.3 Planning

September 1993: first discussions with Mr. H.J.A. Kox about aims and possibilities for co-operation.

October-November 1993: definition of possibilities for the following step with regard to modularisation within the programme in Business and Languages.

December 1993: elaboration of a diagnostic questionnaire relating to the exit qualifications

January 1994: distribution of the questionnaire to all members of the teaching staff, together with a letter providing information on the aims of the project.
Drawing up of a matrix setting out all the exit qualifications and a survey of all contributions by the various subjects towards achieving these exit qualifications. Writing of a manual on how to set up a module and its distribution to all teaching staff.

February 1994: Examples of correctly formulated exit qualifications distributed to the members of the development group. Members of the teaching staff formulate the objectives for their module. The objectives are formulated in terms of 'know', 'be able to do' and 'be able to apply'.

March-May 1994: All teaching staff in the development group construct their module on the basis of the format they had received.
Discussion of progress with each member of the teaching staff in the development group (1 hour). Subjects: Exit qualifications, objectives, activities during contact hours etc... All modules checked by Mr H.J.A. Kox and R.M. Van Meel. Final discussion with the members of staff in the development group on each module.

June 1994: One-day workshop for all members of teaching staff.
Morning programme: discussion of possibilities of modularisation for programme in Business and Languages and the experience gained by the development group.
Afternoon programme: How can the student be challenged to study in a more independent manner and what working method is most suitable for the lecturer?

## 6.2 Exit qualifications for the programme in Business and Languages

On the basis of the relevant expertise profile, the exit qualifications are categorised as follows:

- knowledge and insight;
- professional skills;
- professional attitude;
- social skills.

The exit qualifications per category are set out in order of their importance. An all-round programme such as that in Business and Languages covers a broad spectrum of disciplines and skills.

It is not possible for the programme go into every component which is (or might be) relevant; in some cases, in fact, only an introduction is provided. Although graduates are, to a large extent, capable of participating effectively in professional life when they leave the programme, they will nevertheless find it necessary to regularly acquire new (specialised) knowledge and skills. The programme provides them with an excellent basis for doing so.

### 6.2.1 Knowledge and insight

A graduate

1 is acquainted with macro-economic developments relating to international economic relations in Europe and elsewhere and is able to analyse and evaluate them;

2 has an understanding of the theory, instruments, and techniques of marketing and international market research;

3 has a high level of competence in three modern foreign languages and is, in particular, familiar with commercial, financial/economic and legal jargon;

4 is familiar with the principles and aids involved in business communication, both oral and in writing. This applies to both neutrally informative and persuasive forms of communication, such as used in lobbying and the acquisition of sponsors;

5 has knowledge of the various aspects, including the legal ones, of international business transactions, in particular where imports and exports are concerned;

6 has knowledge of the rules, usage and habits in the main export areas;

7 has knowledge of the main techniques which can improve control of the flow of goods and is aware of relevant current applications in the field of telematics;

8 has knowledge of the techniques of business economics as they relate to financing export transactions, drawing up expenditure plans for sales promotion and advertising, cost calculations, budgeting and project financing;

9 has knowledge of currency administration;

10 has knowledge of administrative systems and decision-making systems in the field of marketing, in particular the marketing information system;

11 has knowledge of the available channels and means of communication necessary to acquire and distribute information;

12 has knowledge of the role patterns in international business transactions in relation to negotiating and dealing with conflict situations;

13 has knowledge of and insight into organisational structures;

14 has insight into the demands which are made on (business) staff operating in an international context and has knowledge of the recruitment and selection process applicable to such persons.

6.2.2 Professional skills

A graduate

15 can read, listen and write in three modern languages and in Dutch and is able, independently or as part of a team, to negotiate with internal and external foreign contacts on such matters as tenders, contracts, products and procedures;

16 has the ability to deal with problems which may arise in international business transactions in a pragmatic manner and to solve or assist in systematically solving complex problems;

17 is able to ensure the proper co-ordination and communication between internal company departments and foreign subsidiaries and branches or a foreign head office;

18 is able to furnish company management with partial or integral advice on the opportunities, possibilities, barriers and risks associated with exports and imports;

19 is able to carry out buying/selling assignments abroad, either independently or in collaboration with experts from other disciplines;

20 is able to independently give shape to, extend and manage a business contact abroad;

21 has at his/her disposal the knowledge and skills needed in order, ultimately, to manage an import/export organisation or part of such an organisation;

22 is able, in part with the assistance of decision-support systems, to assist in drawing up (as part of a team including financial, commercial and technical experts) a marketing plan, a promotion plan or a marketing communication plan, or to formulate single policy advice documents;

23 is able to identify, perhaps on the spot, trends on foreign markets with respect to products and/or services and as a result of such observation to give advice and recommendations with respect to import and export policy;

24 is able to determine product requirements on the basis of insight into consumer behaviour and cultural patterns;

25 has a strong orientation towards organisational and coordinating activities in the context of international business transactions;

26 is able to analyse annual financial reports, import and export finance documents, cost calculations and budget statements relating to foreign customers and suppliers and is able to evaluate the relevance of this information for his/her own organisation;

27 is able to consult statistical sources for a particular purpose and, with the aid of modern library and information retrieval systems, to collect relevant information;

28 is able to formulate independently the most common types of text and to formulate communicative assignments for specialists;

29 is able to make use of modern communication and audio-visual aids during presentations and product introduction sessions;

30 is able to motivate staff, specifically in the foreign department, and to make them enthusiastic;

31 has insight into the structure of language and, if necessary, is able on the basis of that insight to rapidly acquire a certain level of skill in a new foreign language.

### 6.2.3 Professional attitude

In order to be able to carry out the role of 'intermediary' between a company and its foreign contacts, a graduate is

32 interested in foreign cultures and cultures;

33 skilled in languages and is communicative;

34 able to gain a feel for or to imagine him/herself in the role of the other party or the business contact;

35 alert to such matters as exchange, relationships and reputations as connected elements in international business transactions.

### 6.2.4 Social skills

A graduate

36 has a practical attitude, is able to improvise and able to put intuitions into perspective and underpin them using knowledge and insight;

37 is sufficiently flexible to be able to be deployed both in his/her own country and abroad;

38 is able to adjust flexibly to new situations, under extremely varied market circumstances, and specifically to do so abroad.

## 6.3 Diagnosis of the programme

All teaching staff of the programme in Business and Languages received a questionnaire intended to make it possible to construct an inventory of the objectives which are realised for each subject. The following is an abbreviated version of this questionnaire:

Name..... Subject.....

For each of the numbered exit qualifications, please indicate by means of a cross whether, and if so to what extent, your subject makes a contribution to achieving that qualification.

1 = Exit qualification is achieved completely.
2 = There is a contribution to partly achieving the exit qualification.
3 = A contribution is made to achieving the exit qualification, in a supporting capaciy.
4 = No contribution is made in any way to achieving the exit qualification.

| Exit qualification | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | |
| etc... | | | | |

This inventory produced the following matrix for the programme in Business and Languages:

| Exit qual. Nr. | 1 subjects | 2 subjects | 3 subjects | 4 subjects |
|---|---|---|---|---|
| 1 | GE | SPA | STA MA GER CE FR | IPA BE LAW ENG |
| 2 | GE | STA SPA CE | MA | COS IPA BE LAW GER ENG FR |
| 3 | ENG | SPA GER | COS LAW CE FR | STA MA IPA BE GE |
| 4 | | SPA ENG | IPA GER CE FR | STA MA BE GE LAW |
| 5 | | SPA | GER | STA MA IPA BE GE LAW ENG CE FR |
| 6 | ENG | SPA | GER FR | STA MA IPA BE GE LAW CE |
| 7 | | SPA | CE | STA MA IPA BE GE LAW GER ENG FR |
| 8 | | SPA | MA COS | STA IPA BE GE LAW GER ENG CE FR |
| 9 | | SPA | | STA MA IPA BE GE LAW GER ENG CE FR |
| 10 | | SPA | INFO CE | STA MA IPA BE GE LAW GER ENG FR |
| 11 | | SPA | STA IPA GER CE | MA COS BE GE LAW ENG FR |
| 12 | | SPA | IPA GER | STA MA COS BE GE LAW ENG CE FR |
| 13 | | SPA MGT CE | IPA INFO LAW GER | STA MA BE GE ENG FR |
| 14 | | SPA | MGT GER ENG | STA MA COS IPA BE GE LAW CE FR |
| 15 | LAW ENG | COS IPA SPA GER FR | MGT GER ENG | STA MA COS IPA BE GE LAW CE FR |
| 16 | LAW | IPA SPA MGT GE ENG | STA MA GER CE FR | COS BE |
| 17 | | SPA ENG | MGT GER | STA MA COS IPA BE GE LAW CE FR |
| 18 | | SPA LAW | STA COS GE GER | MA IPA BE ENG CE FR |
| 19 | | SPA GER | ENG | STA MA IPA BE GE LAW CE FR |
| 20 | | SPA | GER FR | STA MA IPA BE GE LAW ENG CE |
| 21 | | SPA | MGT GER | STA MA COS IPA BE GE LAW ENG CE FR |
| 22 | | STA SPA | MA COS GE LAW BE GER CE | IPA BE ENG FR |
| 23 | | STA SPA | MA GER | IPA BE GE LAW ENG CE FR |
| 24 | | STA SPA | MA GER CE FR | IPA BE GE LAW ENG |
| 25 | | SPA | GER | STA MA IPA BE GE LAW ENG CE FR |
| 26 | | SPA | BE GE GER CE | STA MA IPA BE LAW ENG FR |
| 27 | | SPA CE | STA GE GER FR | MA IPA BE LAW ENG |
| 28 | ENG | IPA SPA GER FR | COS LAW CE | STA MA BE GE LAW |
| 29 | ENG | SPA GER | COS CE FR | STA MA IPA BE GE |
| 30 | | SPA | MGT GER | STA MA IPA BE GE LAW ENG CE FR |
| 31 | ENG | SPA GER FR | CE | STA MA IPA BE GE LAW |
| 32 | ENG | IPA SPA GER FR | LAW CE | STA MA BE GE |
| 33 | ENG | IPA SPA GER FR | COS CE | STA MA BE GE LAW |
| 34 | | IPA SPA GER | COS LAW ENG | STA MA BE GE CE FR |
| 35 | LAW | IPA SPA | MGT GE GER | STA MA COS BE ENG CE FR |
| 36 | | SPA | STA MA FR MGT LAW GER | IPA BE GE ENG CE |
| 37 | | SPA | GER FR | STA MA IPA BE GE LAW ENG CE |
| 38 | | COS SPA | GER ENG FR | STA MA IPA BE GE LAW CE |

GE = General Economics, SPA = Spanish, STA = Statistics, MA = Mathematics, GER = German,
CE = Commercial Economics, FR = French, IPA = International Public Affairs, LAW = Law,
COS = Communication Skills, MGT = Introduction to Management, INFO = Information Science,
BE = Business Evaluation, ENG = English

Figure 8.7: Overview of the objectives achieved by the programme in Business and Languages by the various different subjects and the relations between certain subjects

1. Exit qualification is achieved completely.
2. There is a contribution to partly achieving the exit qualification.
3. A contribution is made to achieving the exit qualification, in a supporting capacity.
4. No contribution is made in any way to achieving the exit qualification.

## 6.4 Elaboration of modules

The core of each module is in practice the module book. This usually has to meet the requirement that, with its help, a student should be able to master the subject relatively independently. Supervision by the lecturer will be as restricted as possible, depending on the learning objectives, and will concentrate on specific activities. This means that the study material must meet stringent demands with respect to manageability, completeness and organisational clarity.

Uniformity of presentation increases the effectiveness of the information the module books provide. With that in mind, a standard approach for all modules has been agreed on in advance. This can act as a sort of guide-line when a module book is being put together. In Figure 8.8 the various elements of this standard approach are presented:

| | |
|---|---|
| **1. Identification of the module**<br>1. Study programme<br>2. Title<br>3. Subtitle | |
| 4. Study unit | |
| 5. Study load | |
| 6. Contact hours per week | |
| 7. Type of module<br>In relation to exit qualifications<br><br>In relation to the learning objectives<br><br>In relation to the material | <br>State numbers:<br><br>– knowledge<br>– expertise<br>– applications<br>– subject-oriented module<br>– topic-oriented module |
| 8. Semester | |
| **2. General information on content of module** | |
| 1. Reasons for the module | |
| 2. Exit qualifications to which content contributes | |
| 3. Indication of necessary level of prior knowledge | |
| 4. Overview of study tasks: | Course Part 1<br>1. Subject<br>Study task 1<br>Objectives of contact hours<br>Study load |
| | Course Part 2<br>2. Subject<br>Study task 2<br>Objectives of contact hours<br>Study load |
| | Revision learning unit<br>Self-evaluation test on whole module<br>Study load |
| | Self-evaluation test<br>(preferably recent examination and correct answers)<br>Study load |
| Examination | Type of examination<br>Study load |

Figure 8.8: Standard form for modules

As an illustration of what the module books for the foundation year phase looks like, Figure 8.9 presents an overview of the Information Science module as elaborated by the lecturer:

| **1. Identification of the module** | | |
|---|---|---|
| 1. Study Programme | | Business and Languages |
| 2. Title<br>3. Subtitle<br>4. Study unit | | Information Science<br>Introduction to DOS and WP 5.1<br>P1 |
| 5. Study load | | 80 hours |
| 6. Contact hours per week | | 1 hour |
| 7. Type of module<br>In relation to national exit qualifications this module contributes to numbers | | General orientation<br><br>4, 11, 28 et 29 |
| In relation to the learning objectives | | Applications |
| In relation to the material | | Subject-oriented module |
| In relation to the programming | | Independent of timetable |
| 8. Level (semester) | | 1 |
| **2. General information on content of module** | | |
| 1. Reasons for the module | Being able to work efficiently with a word processing programme is therefore a major advantage. This module therefore deals with the word processing programme Word-Perfect 5.1. The second aspect of this module involves learning to use a number of important DOS-commands. Most PCs use the operating system MS-DOS. Although the user-friendly menus which are often installed mean that one can carry out a lot of work on a computer even without a knowledge of its operating system, it is nevertheless useful to be familiar with the most important DOS-commands. This allows one to use any 'DOS computer', whether or not a menu has been installed on it. Finally, this module deals with some of the theory of information technology. Computers come in all shapes and sizes and a wide variety of different types. However, every computer basically works in the same way. An insight into information technology gives one something to hold on to. | |
| 2. Exit qualifications | The student is able to use WP 5.1 to a fair extent. The student knows how to use the most important DOS-commands. The student has an insight into the way computers work and is aware of a number of important features. The student is able to make a presentation on a topic from within the field of information technology. | |
| 3. Prior knowledge | No specific prior knowledge on the part of the student is assumed. | |
| Overview of structure of study tasks | Study task 1: Word-Perfect (Study load 30 hours)<br>Study task 2<br>DOS (Study load 12 hours)<br>Study task 3<br>Information technology (Study load 30 hours)<br>Study task 4<br>Preparation for examination (Study load 8 hours) | |
| 4. The various study tasks in detail | (Only the first study task is included, as an example)<br>Study task 1: Word-Perfect Learning objective : After completing this study task, the student will be able to work efficiently with Word-Perfect 5.1. He/she will in future be able to produce reports using WP 5.1.<br>Contents: After introductory instruction provided by the lecturer, the student gets to work independently using the handbook Basishandleiding Word-Perfect 5.1 by Willem Melching and Peter Doorn. During the course four contact hours will be devoted to WP 5.1. During these sessions the lecturer will give further explanation of some aspects of WP 5.1 and the student will be given the opportunity, under supervision, to work through the handbook. The remaining Study hours are needed for independent study (see plan). The WP 5.1 block is not a component of the material to be studied for the final examination but will be tested part-way through the module. This test is voluntary and, if passed, can add half a bonus point to the final mark. | |

Figure 8.9: Module Information Science, *Hogeschool 's-Hertogenbosch*

Providing an overview of all activities allows students to plan their activities more effectively as Figure 8.10 shows:

| Lesson week | Homework | To be dealt with |
|---|---|---|
| 1 | | Introduction |
| 2 | Study (including carry out work on computer): *Basishandleiding WP 5.1* chapt.1 | Basics of DOS/WP 5.1 |
| 3 | Study: *Basishandleiding WP 5.1* chapts. 2 and 3 | Block function in WP 5.1 |
| 4 | Study: *Basishandleiding WP 5.1* chapts. 4 and 5 | WP 5.1 practical |
| 5 | Study: *Basishandleiding WP 5.1* chapt.6 and notes on chapt. 2, extra WP 5.1 assignments (pp. 22-24) | WP 5.1 test |
| 6 | Study: notes on chapt. 3.2 (pp. 25-29) | Information technology and operation of computer |
| 7 | Study: notes on chapt. 3.3.2.7 and 3.3.2.8 (pp. 30-45) | Information technology and printers |
| 8 | Study: notes on chapt. 3.3.3 (pp. 35-46) | Information technology and memories |
| 9 | | Information technology and DOS |
| 10 | Study (including carry out presentations on computer): notes on chapt. 1.1.1 to 1.1.4 (pp. 2-5) | Presentations |
| 11 | Study: notes on chapt.1.2 (pp. 7-10) | Presentations |
| 12 | Study: notes on chapt.1.3 (pp. 13-17) | Presentations |
| 13 | Study: notes on chapts.1.4 and 1.5 (pp. 18-21) Presentations | Presentations |
| 14 | | Presentations |

Figure 8.10: Overview of the various study activities for the module in Information Science

## 6.5 Evaluation of project and prospects

This project has produced satisfactory results in a short time. In co-operation with the members of the development group, module books have been developed which contribute to meeting the stated objectives. Working with individual lecturers turned out to be effective and the majority of them expressed their satisfaction with both the process and the result. The lecturers who were not members of the development group clearly benefitted from the example given by their colleagues.The plans proposed for the coming academic years involve elaboration of the module books for the following semesters. Consideration is also being given to dividing the semesters into blocks of seven weeks. This would mean more examinations being taken each year. Such a system would provide students with quicker feedback as to their progress and would better spread the study load.

# 7 CONCLUSIONS

It became clear that formulating the professional profile and the exit qualifications during this project provided a useful framework within which it was possible to discuss the content and the objectives of each course. Besides this directional aspect, this professional profile makes it possible to gear the various subjects to one another.

These advantages are reinforced by the fact that this course is organised as a study programme. The involvement of the programme director in setting up these projects and the fact that he is able to assign extra funds makes it possible to steer matters more effectively in the desired direction. Co-ordinated efforts have clearly led to quick results which will make the curriculum more 'achievable' for students. Another striking aspect is the fact that the reaction of most lecturers to the offer of assistance during the working sessions was a positive one and that they appreciate the fact that there was co-operation, both as regards actual content and didactics, in working out a suitable structure.

This shows that co-operation between lecturers and experts with experience in developing modules leads in practice to good results. The precondition is that the assistance offered fits in closely with the practical experience of the lecturers and is of a problem-solving nature. Working under the direction of the programme director was also very constructive. In contrast to the desire for autonomy on the part of the lecturer which is so often emphasised in the literature, most lecturers in fact turn out to be prepared, within a clear content - and didactic framework, to look for the best solutions, evaluate alternatives and discuss them in an atmosphere of openness.

The one false note in the whole is the fact that the government cuts introduced during the past few years mean that the process of elaborating the professional profile and introducing didactic innovation is being thwarted by worries about the future of the institution. Most lecturers, logically enough, object to developing learning environments which may mean that their own job may be threatened. In this sense, increasing the level of student autonomy, whatever its didactic advantages, is sometimes seen as a sword of Damocles which lecturers prefer not to help sharpen.

# CHAPITRE 9
# CASE *ECOLE SUPERIEURE DE COMMERCE,* LILLE (FRANCE)

## 1 INTRODUCTION

This study is based on the assumption that the major challenge facing higher education is providing more flexible education while maintaining quality and increasing efficiency. It is imperative, particularly for higher education in the management sciences, to adapt its programmes to meet the demands of the employment market and to take into account the opportunities offered by European integration (European Commission, 1994b). This challenge is at the top of the agenda in various countries, notably those in the European Union. At this moment, various reforms are already being implemented in different countries to make higher education more flexible (European Commission, 1993a).

The aim of this project is to launch the first modularisation phase in a higher education institution and to prove that reform and innovation measures can be implemented within a broader international context. In the field of higher education, it is still very rare to find institutes collaborating to identify appropriate *formulas* for organising their educational programmes geared to socio-economic objectives and constraints. Without any doubt, this is an under-exploited source of synergy.

The first phase of modularisation, as described in Chapter 4, was designed and implemented at the *Ecole Supérieure de Commerce de Lille.* In order to provide a better overview of the *Ecole,* an introduction to the education system in France is provided first.

### 1.1 Education in France

The general principles which govern the French education system are:

- education is non-denominational;
- education is compulsory beginning at the age of six up to the age of 16;
- public-sector education is free of charge during the compulsory schooling period.

All educational institutes, whether public or private, are governed by national legislation adopted by the Ministry of Education (De Landsheere, 1994; Robert 1993; Morard, 1991).

#### 1.1.1 Pre-school and primary education

A very high percentage of children in France from two to six years old are in pre-school education. After which they enter the primary education system.

#### 1.1.2 Primary education

This period lasts for five years and is divided into three cycles:

- *cours préparatoire* (UK: first year infants) lasting one year;
- *cours élémentaire* (UK: elementary) lasting two years;
- *cours moyen* (UK: intermediate) lasting two years.

Currently the system is being reformed to both eliminate the practice of pupils having to repeat a year and to raise educational standards. This reform consists of splitting primary education into two three-year cycles. Pupils would be grouped into streams which would enable them to follow the curriculum at their own pace.

### 1.1.3 Secondary education

Secondary education is provided by *Collèges d'Enseignement Secondaire* (UK: middle school) and has a duration of four years which is divided into two two-year cycles, namely:
- the *cycle d'observation* (UK: 1st and 2nd years observation classes);
- the *cycle d'orientation* (UK: 3rd and 4th years transition classes);

Pupils who successfully finish these two cycles are approximately 15 years old.

After completion of the CES, they continue their full-time education either in a *Lycée d'Enseignement Professionnel* or a *Lycée.*

The *Lycée d'Enseignement Professionnel (LEP)* is a secondary school for vocational training. The *LEP has two types of pupils, namely:*
- pupils who have completed their second year in a *CES* or who have come from *Classes Préprofessionnelles de Niveau* (*CPPN* - alternative classes for pupils who are unable to follow ordinary second and third year general education) or *Classes Préparatoires à l'Apprentissage* (*CPA* - preparatory classes for apprenticeship). These pupils all have three years in which to prepare the *Certificat d'Aptitude Professionnelle* (*CAP* - vocational training certificate roughly equivalent to the UK: *City and Guilds examination*);
- pupils who have completed their fourth year in a *CES* and who, after two years will be awarded the *Brevet d'Etudes Professionnelles* (*BEP* - technical school certificate) or certain *Certificats d'Aptitudes Professionnelles (CAP).*

In the curriculums of *Lycées d'Enseignement Professionnel* general, technical and theoretical educational alternate with on-the-job training.

Furthermore, there are two new types of *baccalauréat*:
- in *Lycées d'Enseignement Professionnel*, this examination is intended for holders of a *BEP* to enable them to specialise in a profession;
- in the *Lycées Technologiques* (technical schools) the *Baccalauréat Technologique* gives a qualification of *Technicien* (technician) in a technological field and provides access to higher studies (*BTn*);

The other possibility are *Lycées* which cater for pupils who have spent four years at a *CES* and prepare them in three years (UK: fifth form, lower sixth and upper sixth) for the *Baccalauréat de l'Enseignement du Second Degré* (school leaving certificate in secondary education).

## 2 HIGHER EDUCATION

Higher education is provided by :

- Universities;
- *Instituts Universitaires de Technologie* (*IUT* - roughly equivalent to UK: polytechnics);
- *Sections de Techniciens Spécialisés* (*STS* - sections for specialised technicians);
- *Grandes Ecoles* (prestigious university level schools with a competitive entrance examination);
- Private colleges.

### 2.1 University

Universities of law, economic sciences and management, the arts, social sciences and the sciences are organised into three successive cycles, namely:

- the premier cycle;
- the deuxième cycle;
- the troisième cycle;

#### 2.1.1 *Premier cycle* (first cycle lasting 2 years)

The premier cycle which lasts two years requires the *Baccalauréat* for admission. At the end of this cycle the student receives:

- the *Diplôme d'Etudes Universitaires Générales* (*DEUG* - diploma awarded after two years of university, roughly equivalent to an ordinary degree) or;
- the *Diplôme d'Etudes Universitaires Scientifiques et Techniques* (*DEUST* - diploma awarded after the first two years of university education in scientific and technical subjects) or;
- a *Diplôme d'Université* (*DU* - non-national diploma issued by the university itself).

The *DEUG* is a multidisciplinary cycle of general and specialised training. The *DEUST* and the *DU* accredit short-term pre-vocational training.

#### 2.1.2 *Deuxième cycle*

The *deuxième cycle* which has a duration of two or three years requires the *DEUG* for admission.The *DEUG* allows students to choose between four possible options namely:

a) basic, vocational and/or specialised training to obtain the diplomas of *Licence* and *Maîtrise*.

The *Licence* can be received after the *DEUG* plus one year (three years of higher education) and is roughly equivalent to the UK bachelor's degree;
The *Maîtrise* can be received after the *Licence* plus one year (four years of higher education) and is roughly equal to the UK master's degree.

b) vocational training designed as an indivisible two-year block leading to the diplomas of:

- Maîtrise de Sciences et Techniques (MST - master's degree in science and technology);
- Maîtrise de Sciences de Gestion (MSG - master's degree in management science);
- Maîtrise de Méthodes Informatiques Appliquées à la Gestion (MIAGE - master's degree in business information technology).

c) training leading to the *diplôme d'ingénieur*, designed as a three-year block or in line with the option MST plus one year, thus five years of higher education.

d) university education designed as an indivisible block after the DEUG of three years leading to the 'Magistère'. The route to this is the DEUG or *DUT* plus three years and is completed with the grade of *Magistère*.

The *Magistère*, introduced in 1985, is a three-year training programme open to pupils selected on the basis of their qualifications who are holders of a *DEUG* or a *DUT (Diplôme universitaire de Technologie* - two-year diploma in a technical subject taken in an *IUT* after the *baccalauréat),* as well as to pupils from the *Grandes Ecoles*. It accredits high-level multidisciplinary training of a vocational nature.

### 2.1.3 *Troisième cycle*

The *troisième cycle* consists of post-graduate studies lasting from one to five years and requires the *Maîtrise diploma,* or the *diplôme d'ingénieur* for admission. This cycle allows the student a choice between two options, namely:

- the *Diplôme d'Etudes Supérieures Spécialisées* (*DESS* - post-graduate diploma in an applied subject, lasting one year); or
- the *Doctorat* (PhD).

## 2.2 *Instituts universitaires de technologie (IUT)*

The required diploma for attending an IUT is the *Baccalauréat* plus selection of applicants on the basis of their qualifications. Inside Universities, *IUT*s provide two years of general and vocational training (including an on-the-job training) upon successful completion the student receives the *Diplôme Universitaire de Technologie* which is allotted on the basis of continual assessment.

## 2.3 *Sections de Techniciens Supérieurs (STS)*

The *STSs* provide a two-year course of vocational training which permits direct access to employment or to continued higher studies at university or other higher educational institutions. After passing their examination at the end of the second year, students obtain a vocational training certificate, the *Brevet de Technicien Supérieur*.

## 2.4 *Grandes Ecoles*

The diploma required is the *Baccalauréat* followed by a competition for which students prepare over one or two years (according to subject specialisation) in preparatory classes for the *Grandes Ecoles* (business or engineering). The total period of study following the *Baccalauréat* generally varies from between four and five years. The *Grandes Ecoles* are very diverse but they all share a high degree of selectivity for entrance.

## 2.5 Private colleges of higher education

Private schools are sometimes recognised by the State (De Landsheere, 1994; Robert, 1993; Morard, 1991). The following Figure illustrates the structure of the education system in France.

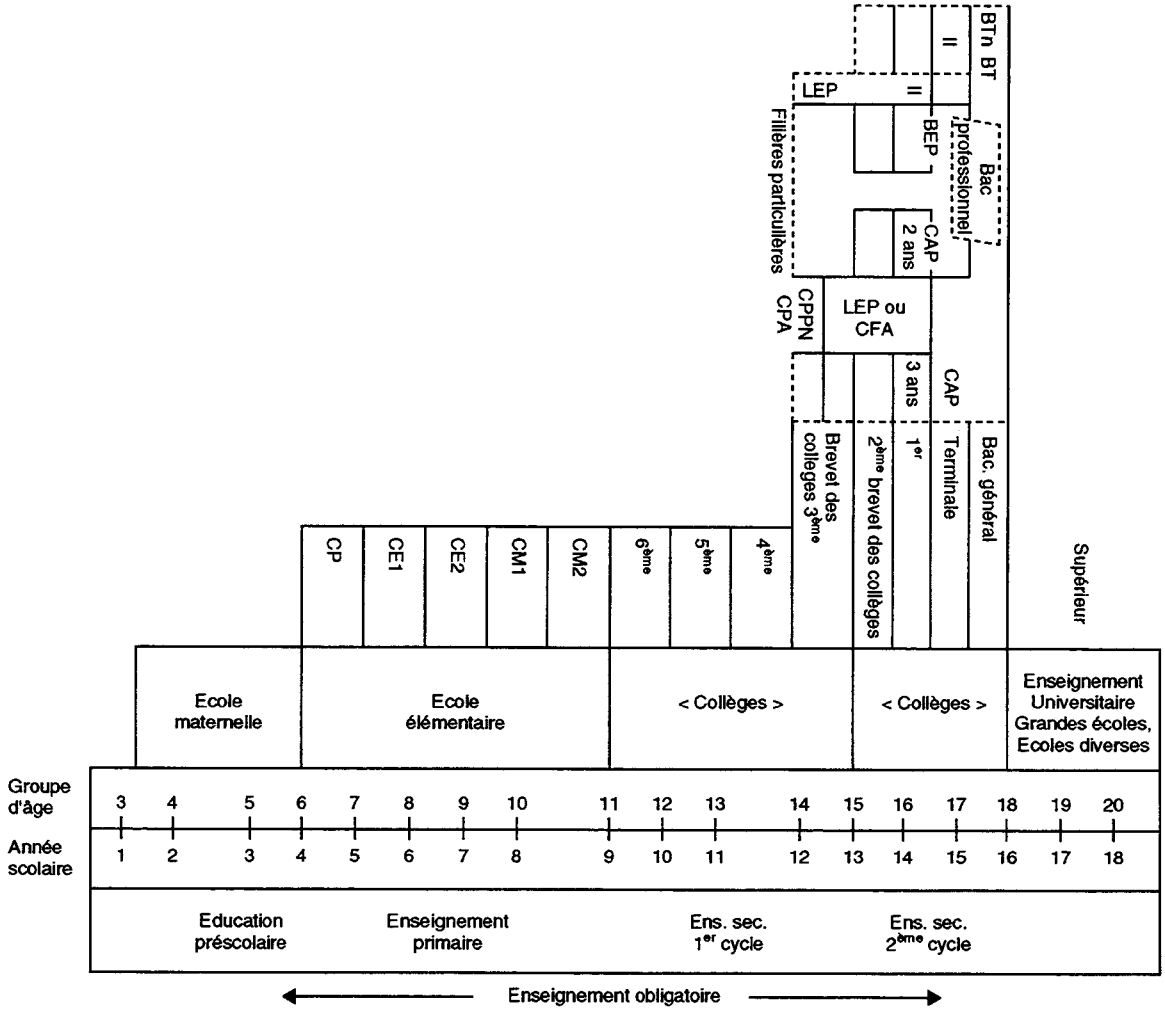


Figure 9.1: The education system in France
Source: Morard, M.C. (1991: 34)

## 3 The *Groupe Ecole Supérieure de Commerce de Lille*

### 3.1 Introduction

The *Ecole Supérieure de Commerce de Lille* is a member of the *Conférence des Grandes Ecoles françaises* (conference of French *Grandes Ecoles*), *Chapitre des Ecoles de Management* (management schools chapter) which brings together very selective higher education institutions. The *Ecole de Commerce de Lille* Group focuses on four major poles of activity: Initial Education and Training in Management, Research, Post-Graduate Programmes and Continuing On-the-Job Training.

### 3.2 Background

The *Ecole Supérieure de Commerce* was created in 1892 by the Lille Chamber of Commerce and was funded by the Chamber of Commerce, the Lille municipal authorities and the Ministry of Education. In 1936-1937, the Ministry of Education took about to reform the Concours (competitive entrance examination) and the programmes of the *Ecoles de Commerce* (business schools). The Chamber of Commerce opposed the reform closed down the School in 1938. In 1946 and 1947, a group of academics began an attempt to revive the *Ecole Supérieure de Commerce* with the help of the Office of the Rector of the University of Lille, the Municipality of Lille and the county of the *Département du Nord*. The Rector was automatically the Vice-Chancellor of the School from 1947 to 1989 and this explains the close links between the School and the University of Lille. The *Ecole Supérieure de Commerce* was then integrated into what was to become the network of *Ecoles Supérieures de Commerce et Administration des Entreprises* (*ESCAE* - colleges of business and company administration). In 1984, the *Ecole Supérieure de Commerce de Lille* created a Study and Research Centre (*CRESC*) and started its first post-graduate study programmes in 1988. The development plan launched in 1989 for the 1989-1994 period defined the following strategic priorities:

- development of initial higher education and training geared to the demands of business and to formulate a suitable didactic approach to this education;
- a policy of diversification designed to create post-graduate study programmes;
- internationalisation. This took the form of the active participation of the *Ecole Supérieure de Commerce* in the Erasmus Programme by promoting exchanges with institutions in other European countries and collaboration projects with American and Japanese institutions.

### 3.3 Educational mission and objectives

The mission and objectives of the *Groupe Ecole Supérieure de Commerce de Lille* are to:

- provide initial education and training in managerial behaviour to students in order to train young executives who are highly adaptable to changes in business and the professions;
- train executives who are specialised in the fields of the *Group*, either on an nitial or continuing training basis;
- contribute to the regional development of the Nord-Pas-de-Calais;

- help to open up business and the professions to the international market;
- contribute towards the development of companies through a partnership which closely involves initial education and training, continuing training, counselling, economic and management information, and exchanges of experience; and
- facilitate the progression of practices, experience and knowledge in management disciplines.

## 3.4 Organisational structure

Since 1989, the Group's Organisational chart has been as follows:

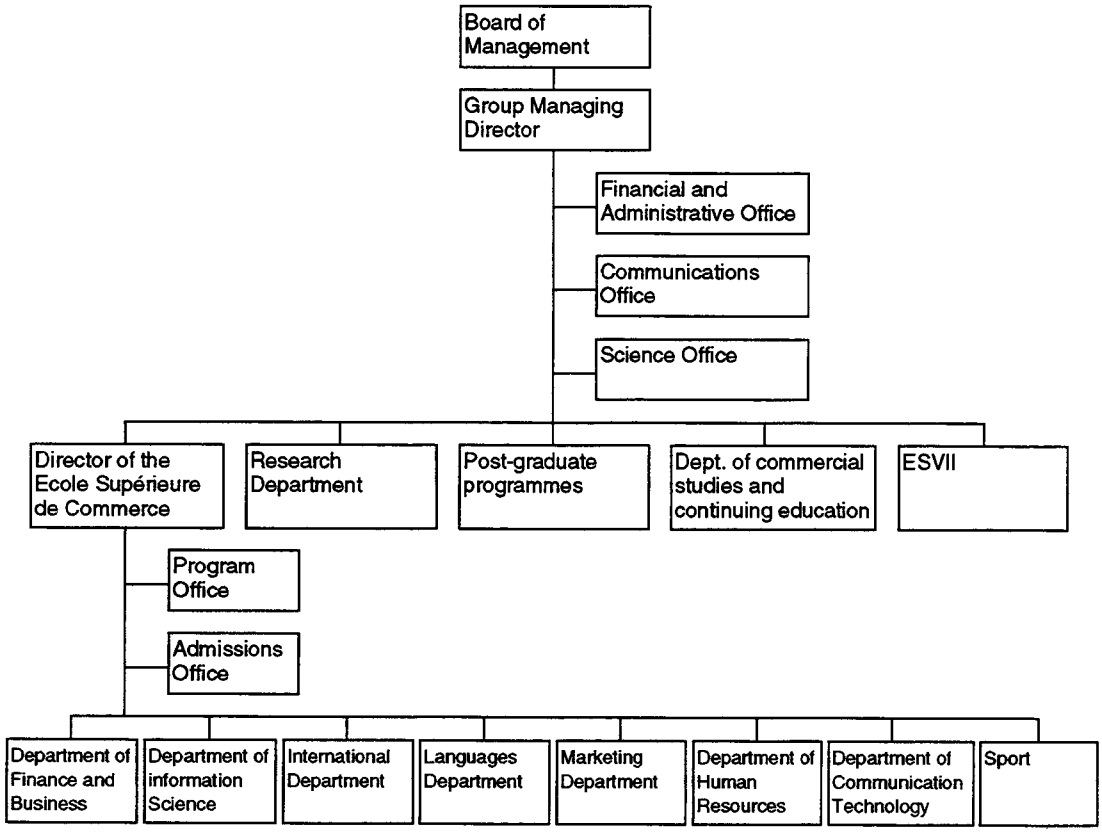


Figure 9.2: The Organisational chart of the *Groupe Ecole de Commerce Supérieure de Lille*
Source: *Document interne de l'Ecole Supérieure de Commerce de Lille* (1991)

The Organisational structure reflects the Group's poles of activity. The Organisation of the *Ecole Supérieure de Commerce* adheres to the almost classic higher education structure: the various academic disciplines form the basis for the different departments.

In the academic year 1993-1994, the *Ecole Supérieure de Commerce* had 304 stafmembers. The breakdown of the staff in their function can be seen in Figure 9.3:

| | |
|---|---|
| Administrative staff | 49 |
| Staff teachers | 43 |
| External teachers | 212 |
| Total | 304 |

Figure 9.3: Staff (1993-1994 academic year)
Source: *Document interne de l'Ecole Supérieure de Commerce de Lille* (1991)

In the same academic year, 762 students were enroled at the *Ecole Supérieure de Commerce.* Figure 9.4 provides an overview of the number of students per programme:

| | |
|---|---|
| Initial programme<br>– first year<br>– second year<br>– third year | <br>206<br>234<br>198 |
| Continuing training | 102 |
| Vocational training (DESCL) | 22 |
| Total | 762 |

Figure 9.4: Students (1993-1994 academic year)
Source: *Document interne de l'Ecole Supérieure de Commerce de Lille* (1991)

The remainder of this study is devoted to the modularisation of the Initial programme provided by the *Ecole Supérieure de Commerce.*

## 4 ORGANISATIONAL STRUCTURE OF THE INITIAL PROGRAMME (1993-1994 ACADEMIC YEAR)

### 4.1 Aims of the programme

The Diploma of the *Ecole Supérieure de Commerce de Lille* is the Group's major programme. It is a basic education and training programme for management and the business professions. The development of the educational offer has to respond to the joint expectations of students, teachers and business.

The exit qualifications for the programme include skills and attitudes as well as knowledge.

By the end of the programme graduates must possess:

- solid foundations in economic business culture;
- a mastery of the most important recent developments in each major management discipline;
- a command of two languages in addition to their mother tongue;
- training in international practices and systems in each major discipline;
- a general education, i.e. technological (communication, automation), which is also 'universal' (knowledge of other cultures and modes of thought, geopolitics).

Skills and attitudes:

- an entrepreneurial spirit;
- human relations skills (team-work, application and behaviour, leadership ability, motivation and a sense of values);
- a sense of initiative and assertiveness;
- the ability to develop a global view of a subject or project and position their own contribution within it;
- adaptability: a sense of curiosity coupled with physical and intellectual mobility;
- working methods (analytical, organisational and information management skills).

## 4.2 Educational organisation of the programme

The objective of the programme is to train management executives and high-level generalist managers. Since students may obtain training specialisation through masters and post-graduate studies, initial education and training incorporates developments in each major management discipline (marketing, finance, control, management, accounting, law, economics, computing, personnel, organisation). This policy has led to excluding elective subjects or other choices in the first and second years of study. Some options are available in the third year for a limited amount of time (120 hrs) compared with the common core syllabus. These options permit students to make certain choices and give them added training in their chosen discipline without prematurely locking them into a speciality. Employers and students are therefore certain that the diploma accredits education and training that is homogeneous in content.

*The European and international dimension*

The School has participated in the Erasmus-ECTS Programme since creation. The School has been part of the Working Group to explore avenues of development for the new Socrates Programme since 1994. Compulsory language teaching is oriented towards external accreditation (examinations organised by the Chambers of Commerce). Optional training is added to this objective, and currently the School offers courses in Japanese, Chinese, Russian, Spanish, Italian, English, German and Dutch.

The curriculum includes a training placement abroad as well as management training in English, an international common core syllabus in the third year, etc...

## 4.3 Training placements, sport and extra-curricular activities

### 4.3.1 Training placements

Students of the *Ecole de Commerce* spend a minimum of 42 weeks doing on-the-job training during their three years of study.

- *NORD-ENTREPRISES* training placement (second year, second semester: 20 days). *ESC* students go to regional SME's/SMI's on Wednesday and Thursday as part of their studies to respond to specific business problems and return to the School on Fridays. Each student doing this must fulfil the specific task initially stipulated by the company, under the responsibility of teachers who follow up the operation.

- Long training placement (fifth semester, lasting six months). On-the-job training between June 1st and November 30th.

- Managerial training placement (2-4 months), France/abroad.

### 4.3.2 Extra-curricular activities

Students are very much encouraged to take part in extra-curricular activities. The School boasts 26 associations in the area of charity, culture, sport, economics and media.

### 4.3.3 Sport

Physical education is a compulsory discipline on which the student is graded. Sport illustrates in practice what students are taught in terms of team motivation and human relations.

## 4.4 Division of semesters during the course

Classes are conducted from Monday through Saturday. Since the School belongs to the Erasmus-ECTS system, schooling is organised on a semester basis, with semester results serving as a basis for the award of ECTS credits. Courses are scheduled in parallel sessions.

The Options from which a student must choose are: Accountancy; Finance; Auditing & Management Control; Product Management; Negotiation, Sales & Distribution; International Business Management; Human Resources Management.

An overview of the programme is presented in the Figure below:

| **Semester** | **1 (Sept.-March)** | **2 (March-Aug.)** | **3 (Sept.-March)** | **4 (March-Aug.)** | **5 (Sept.-March)** | **6 (March-Aug.)** |
|---|---|---|---|---|---|---|
| **Number of weeks** | 23 | 23 | 23 | 23 | 23 | 23 |
| **Number of subjects** | 11 | 10 | 10 | 12 | | 9 |
| **Options** | 3rd language | | | | | 9 + option (120hrs) |
| **Placements/ Projects: Duration** | | | | Nord. Ent. | Long placement: 6 months<br><br>Management placement 2-3 months | |
| **ECTS credits** | 30 | 30 | 30 | 30 | 30 | 30 |

Figure 9.5: Division of semesters during the Initial programme
Source: *Guides des Etudes* (1991)

## 4.5 Didactic methodology

The *Ecole Supérieure de Commerce* promotes the active participation of its students. A great number of training activities takes place in the form of working groups, seminars and projects.

### 4.6 Evaluation and monitoring

Evaluation is by written or oral examination or a *viva voce* presentation of the student's report on a project or the third year training placement. Grading is annual. To graduate to the following year, a student must have:

- obtained an overall average grade higher than or equal to 10/20;
- received only one grade lower than 7/20, including the sports grade.

In the event that the average is less than 10/20 or two grades are lower than 7/20, the examining board has to choose one of the following options:

- admission to the following year with the examining board's leniency;
- admission to the following year provided he/she passes a resit defined by the examining board;
- repetition of the year;
- expulsion from the School.

A student is allowed to repeat only one year during the entire training programme. Studies can therefore never last longer than four years except in a case of *force majeure* or study leave granted by the School Management.

## 5 THE MODULARISATION PROJECT (FIRST PHASE: IMPLEMENTATION 1994-1995).

### 5.1 Aims and organisation of the project

#### 5.1.1 Aims of the project

The type of project initiated at the *Ecole Supérieure de Commerce de Lille* may be defined as the first phase of modularisation, as described in Chapter 4. The various stages included in this project were as follows:

1. Definition of the educational objectives and training aims.
2. Definition of the exit qualifications.
3. Diagnosis of the programme in order to ascertain whether:
   - the objectives and aims envisaged by the curriculum are achieved;
   - the curriculum contains shortcomings and/or duplications.
4. Uniform presentation of the course taking into account the previous elements.
5. The 1994-1995 Study Guide drawn up on the basis of all of these elements.

#### 5.1.2 Organisation

Project leaders:
Prof. Dr. Jean-Pierre Raman, Director of the School, Executive Vice-President
Mr. Philippe Evrard, Head of Studies and Rosita M. Van Meel (Centre for Educational Technology and Innovation, Open university, Heerlen, the Netherlands).

### 5.1.3 Planning

November 1993 : meetings between Mr. Raman and Mr. Evrard concerning the aims and the various stages of the project .

January 1994:
- definition of the educational profile of the programme in relation to the labour market;
- presentation of the project to the heads of department and teachers at the *Ecole Supérieure de Commerce* under the leadership of Mr. Raman and Mr. Evrard, in collaboration with Rosita M. Van Meel.

February-May 1994:
- formulation of a questionnaire permitting each teacher to indicate how his/her course contributes to achieving the exit qualifications;
- diagnosis of the programme in collaboration with the teaching staff;
- analysis and synthesis of questionnaire results;
- design of and consultation concerning a uniform presentation for each course.

All of these activities took place under the direction of Mr. Raman and Mr. Evrard, in collaboration with Rosita M. Van Meel.

May-September 1994: design of the presentation of each course by teachers, under the co-ordination of the heads of department and Mr. Ph. Evrard.

October 1994: Drafting of the study guide under the direction of Mr. Ph. Evrard.

November 1994: Evaluation of the project and prospects for educational development by project leaders.

### 5.1.4 Exit qualifications for the programme

The *Ecole Supérieure de Commerce de Lille*, member of the *Confédération des Grandes Ecoles*, offers the type of education and training which permits its graduates to assume senior executive responsibilities. This generalist education and training is aimed at young students in the form of an initial programme and at company managers as continuing training. By the end of their studies, young graduates will also have acquired social skills which are vital for a successful professional life.

At the beginning of their professional careers in companies and institutions, graduates are capable of doing preliminary research and/or participating in the execution of various tasks in different management fields at the national and international level. Thus, the objective of the *Ecole Supérieure de Commerce de Lille* is to provide education and training which will allow ambitious graduates to progress to top management posts during their professional careers.

Although the tasks of young graduates are more of an executive nature at the beginning of their careers, they are well prepared to progress towards positions of high responsibility within a time frame of between five and ten years of professional life. Moreover, the progress of former graduates demonstrates that a fair number of them set up their own businesses after this period.

Among the educational objectives to be attained, the following categories can be distinguished:

- knowledge and insight;
- professional skills;
- professional attitudes.

5.1.5 Knowledge and insight

Graduates from *the Ecole Supérieure de Commerce de Lille* are

1 able to express themselves and negotiate fluently in at least three modern languages, concerning economic, commercial, legal, organisational, personal, political and social aspects of their profession;

2 In particular, they know how to conduct both national and international business and are capable of managing conflict situations;

3 They are familiar with the different organisational structures and the manner in which communication takes place within them in a national and international context;

4 They have a thorough knowledge of the management techniques needed for drawing up annual reports, profit and loss accounts, financing plans and cost accounting;

5 They are able to apply their knowledge in several types of transaction such as the financial management of export projects, drawing up budget plans for advertising and promotion campaigns with regard to national and international trade;

6 They are capable of evaluating annual reports, export finance plans, cost accounting and budgets of national and international partners;

7 They have a knowledge of personnel management in both national and international companies;

8 They keep abreast of macro-economic events and their influence on national and international economic relations;

9 They are familiar with the legal aspects of national and international trade as well as with the conventions, traditions and customs specific to certain chosen export regions. They have mastered logistical management techniques and can apply new information techniques to them;

10 They know how to draw up a national and international market survey, a promotion plan, a communication plan and a marketing plan for an export project;

11 They have acquired experience of working with a word-processing, programme, a spreadsheet and a database.

5.1.6 Professional skills

Graduates from the *Ecole Supérieure de Commerce de Lille* are

12 able to work and negotiate in at least three modern languages in an international context on the subject of bids, contracts, products and procedures;

13 They are able to help with problems or contribute solutions related to national and international trade;

14 They are able to co-ordinate communication between internal departments and foreign subsidiaries or the parent company abroad;

15 They are able to advise company management on export possibilities;

16 They are able to independently manage commercial relations both in France and abroad;

17 They are able to follow an export procedure;

18 They are able to work in a team with other experts to draw up marketing, promotion or communication plans;

19 They are able to carry out market research abroad on market conditions and trends in the field;

20 They are able to initiate and coordinate various activities within the business framework and to direct operational activities;

21 They are able to act flexibly in fluctuating market conditions and to identify new opportunities;

22 They are able to consult statistical databases, seek information in a research field from relevant literature with the aid of modern library systems and information technology;

23 They are able to use new media to make presentations and introduce new products;

24 They are capable of following the advances in the field of information technology and of implementing the necessary applications;

25 They are able to draft reports in at least three modern languages on economic, legal, marketing, organisational and personnel management aspects of their profession;

26 They are able to design and set up a system for the administration of commercial, national and international relations.

5.1.7 Professional attitudes

27 In order to achieve its educational task and objectives, the *Ecole Supérieure de Commerce de Lille* selects and trains young executives whose behaviour reflects a sense of ethical values and responsibility. Educational, sporting and cultural activities and associations convey the fundamental values of the School, in terms of team spirit, determination to succeed, commitment and clear-sightedness;

28 By the end of their studies, young graduates have an open-minded approach which permits them to operate effectively in a national and international context and to cope with changes in a dynamic environment.

6 DIAGNOSIS OF THE PROGRAMME

The diagnosis was made with the aid of a questionnaire submitted to all department heads and teachers. The questionnaire lists training objectives and mentions objectives which have been entirely or partially achieved by the various training activities or which are assumed to have been achieved by other courses in the same discipline. Below, we give as an example the beginning of the questionnaire which was distributed.

1- Young graduates of the *Ecole de Commerce de Lille* are able to express themselves and negotiate fluently in at least three modern languages, concerning economic, commercial, legal, organisational, personal, political and social aspects in the field of national and international trade;

| Objective achieved | Objective partially achieved | Objective achieved by other courses in the same discipline | No relation to the objective |
|---|---|---|---|
| 1 | 2 | 3 | 4 |

2- In particular, they know how to carry out both national and international negotiations. They are capable of managing conflict situations;

| Objective achieved | Objective partially achieved | Objective achieved by other courses in the same discipline | No relation to the objective |
|---|---|---|---|
| 1 | 2 | 3 | 4 |

Figure 9.6: Beginning of the questionnaire submitted to teachers

An analysis and summary of this procedure were presented at a meeting of all participants. Only the categories of objectives achieved and partially achieved were selected for a preliminary overall summary.

The following example illustrates the result of this operation for the first six objectives:

| Objectives | 1 Achieved | 2 Partially achieved |
|---|---|---|
| 1 | ES123 ANT2 | AN123 PSO2 RH3 RH1 AL123 ES12 ALS123 AN1 AN2 MI3 SI2 TCF1 PEG1 TC12 EIT2 AF1 FS2 IN123 M1 PG23 ALH3 DG1 DC2 ALB1 ANB1 ANB3 ALH1 ALTH2 ALL1 |
| 2 | ES123 MI3 | AN123 PSO2 RH3 ES1 EID2 EIT2 ES12 IN123 M1 ES1 TCF1 TC12 AL123 ANT2 ALH3 ALB1 ALL1 DG1 DC2 ANB2 ANB1 MDS3 PCB2 ALH1 CG3 ALTH2 |
| 3 | ES123 EID2 | AN123 PSO2 RH3 RH1 EIT2 MP2 IN123 MI3 ES1 TCF1 TDC1 ALS123 M1 PG23 ALTH2 DC2 ALB1 ANB2 ANB3 PA2 MDS3 PCB2 CG3 ALL1 |
| 4 | TDC1 FS2 PCB2 CG3 | AN123 CG1 AL123 AF1 PFI2 AFL1 MI3 ANB2 ANB3 PGP1 ALTH2 FI1 FI2 |
| 5 | ES123 TDC1 PCB2 CG3 | TQ1 PEG1 AL123 AF1 FS2 IN123 M1 PFI2 MI3 DG1 DC2 ANB2 ANB3 PA2 ALTH2 FI2 |
| 6 | ES123 CG3 | CG1 TQ1 TDC1 PFI2 EG1 EIT2 AF1 FS2 IN123 MI3 ANB2 ANB3 PCB2 ALTH2 |

PA = Panels, Monitoring the market, AN123 = English, PSO2 = Organisational theory, ANB123 = English, TC1 & TCF1 & TC12 = Communication techniques, PG = General policy, PGP1 = Product positioning and management, EM1 = Market research, RH123 = Organisation and human resources, CG1 = General accounting, ES123 = Spanish, TQ1 & TQV1 = Quantative management techniques, SI2 = Information systems, PEG1 = General economic policy, ALL1 & ALH123 & ALB1 & AL123 = German, AFL1 = Financial analysis, EG1 = General economics, EID2 = Industrial economics, EIT2 = International economics, TDC1 = Seminar accounting, FI12 = Taxation, MDS3 = Marketing services, MP2 = Marketing and planning, FI2 = Financial policy; financing, investment, CG3 = Management control, AF1 = Financial analysis, FS2 = Strategic finance, IN123 = International, GRH3 = Human resources management, PG12 = Business policy, MI3 = Industrial marketing, DC2 = Commercial law, M1 = Marketing, PCB2 = Finance control

Figure 9.7: Summary extract of objectives achieved in the various subjects

The objectives were numbered and the various subjects were indicated using an abbreviation to denote the course and an index number for the corresponding academic year in the questionnaire. Such an analysis, accompanied by a legend, makes it possible to see if the education and training objectives were indeed achieved by the various courses. Furthermore, the table indicates the common objectives of certain courses, which makes it possible to identify the necessary co-ordination between various subjects.

## 6.1 Elaboration of modules

This procedure aims to achieve two objectives, namely, the elaboration of the curriculum in line with the exit qualifications to be achieved and, the uniform presentation of each course to guarantee transparency of information for all persons concerned.

## 6.2 Elaboration of a course plan

The relationship between the course and the exit qualifications was translated into educational aims to be achieved for each subject. These objectives are expressed in terms of:

knowledge;
know-how;
field of application.

This was followed by a description of the activities and the time required for the student to carry out the required work and achieve the objectives. Finally, the introduction of a common planning standard was proposed for all courses. Following the same model already used in the Netherlands, the proposed standard was: one module equals a 40 hr student study load. Figure 9.8 provides the course plan of the Business Policy module:

| Title of course | General Business Policy |
|---|---|
| Semester | 6 |
| Common core syllabus/option | Common core syllabus |
| Achievement of training objectives | The following objectives will be partially achieved: 1, 3, 7, 12, 13, 15, 19, 21, 25 |
| Objectives<br>*Knowledge | By the end of the semester, students must be able to:<br>– explain the concepts studied during PG semester 4 (in English and French);<br>– explain the relationship between the various concepts;<br>– put forward a coherent argument. |
| *Know-how | By the end of the semester, students must be able to:<br>– analyse and comment upon cases dealing with elements of business life.<br>This process must comprise the following stages:<br>– internal analysis,<br>– external analysis,<br>– diagnosis of problems,<br>– proposed solutions. |
| *Applications | By the end of the semester, students must be able of:<br>– make a business diagnosis;<br>– draft a general policy report;<br>– apply the concepts, methods and tools for other exercises (e.g., comparative management, end of course dissertation, etc...) |
| Study load | Lectures: 3 hrs<br>Supervised study: 18 hrs<br>Private study: 30 hrs<br>Preparation for the examination: 23 hrs<br>Examination: 6 hrs<br>Total: 80 hrs |

| | |
|---|---|
| Programme per week | **Week 1: Seminar 1**<br>Activities/Students:<br>Read: How to analyse and to write case study reports (S. Swenson & P. Holland)<br>Duration: 5 hrs.<br>Seminar: Introduction:<br>Case: Trophy-Radiology |
| | **Week 2: Seminar 2**<br>Activities/Students:<br>Read: How to analyse and to write case study reports (S. Swenson & P. Holland)<br>Duration: 3 hrs<br>Seminar<br>Case: Boehm |
| | **Week 3: Seminar 3**<br>Activities/Students:<br>Read: The entrepreneurial organisation (Mintzberg pp. 238-246).<br>The product portfolio (Henderson, pp. 312-314)<br>Case: SGT<br>Duration: 5 hrs<br>Seminar: Case SGT |
| | **Week 4: Seminar 4**<br>Activities/Students:<br>Read: Generic strategies (Mintzberg, pp. 70-82).<br>The transition to industry maturity (Porter, pp. 286-290)<br>Read: DELTA NEU Case<br>Duration: 5 hrs<br>Seminar: Delta Neu Case |
| | **Week 5: Seminar 5**<br>Activities/Students:<br>Strategy and Organisation Planning (Galbraith, pp. 135-141)<br>Questions 1-3<br>Duration: 3 hrs<br>Seminar: Strategic alliances<br>(Audio-visual programme) |
| | **Week 6: Seminar 6**<br>Activities/Students:<br>Read: The diversified organisation (Mintzberg pp. 300-312).<br>Read: Falbalas Case<br>Duration: 5 hrs<br>Seminar: Falbalas Case |
| | **Week 7: Lecture 1**<br>Activities/Students: general revision<br>Duration: 4 hrs.<br>Lecture 1: Correction of the mock examination |
| Technological resources | 1 audio-visual programme |
| Type of examination | Case study: Essay in French |
| Reading | H. Mintzberg & J.B. Quinn, The Strategy Process, Prentice-Hall, 1992.<br>G. Morgan, Creative Organisation Theory, Sage Publications, 1989.<br>G. Koenig, Management stratégique, Nathan, 1990.<br>STRATEGOR, Stratégie, structure, décision, identité.<br>Politique générale d'entreprise Interéditions, 1992.<br>S. Swenson & P. Holland, How to analyse and to write case study reports, New Zealand, 1984. |

Figure 9.8: Plan of the module Business Policy

This model was adopted with the exception of the planning standard, since a fair number of teachers preferred an alternative standard. The proposed standards varied from 30 hrs and 60 hrs. Experience acquired during the 1994-1995 academic year would help in making the final decision. Up until this point, an estimate of the study time required for each subject will be indicated.

## 6.3 Evaluation of the project and prospects for the future

The design and development of this project were given a positive evaluation by Mr. Raman and Mr. Evrard, who assumed responsibility and co-ordinated the meetings throughout.

The other planned educational developments for the current academic year include various initiatives of which the most important are:

- the reorganisation of options and post-graduate study programmes into modules. This would give third-year students the opportunity to make their choice from among all 150 modules. Each student must choose four modules from the same option and also freely select two other modules;
- the great majority of these modules are taught by company managers. This fosters solid links between training and professional life;
- the introduction of an automated test system to provide students with regular, more rapid feedback on their progress;
- the formation of a thematic group with the universities of Rome and Barcelona to prepare projects in relation with SMEs with a view to its participation in the Socrates Programme.

# 7 CONCLUSIONS

To what extent has this project contributed towards greater flexibility, quality and effectiveness?

Flexibility: in terms of the programme's adaptability to the demands of the employment market, the definition of training in terms of skills and attitudes permits the programme to be evaluated and modifications to be introduced as required.

Quality: the formulation of the exit qualifications towards which each course must contribute and the specific objectives to be achieved by each course highlight the relationship between the various courses in the programme. Such transparency ensures better co-ordination between initial and post-graduate training. Furthermore, it constitutes a solid basis for better collaboration with other French and European institutions in the development of common courses and/or programmes. In this respect, such elements represent aspects of flexibility, as well as of quality.

Effectiveness: during its first phase, the modularisation project did not contribute to greater effectiveness for the institution. Effectiveness is to be expected during the second and third phases when we come to establish didactic methods for fostering the more active participation of students in terms of 'independent learning'.

The development of the project was facilitated by the fact that it was initiated and supported by the School's Management. Most of the teachers actively contributed to realising this first phase. Continued efforts towards greater consultation and co-ordination seem to be required in order to achieve lasting results.

It is clear that gearing education and training to current requirements demands continuous collaboration between the players involved. By its very nature this exceeds the confines of a single discipline or the individual responsibility of a teacher or manager. Despite the relatively short duration of this project, the results obtained hold out favourable prospects for other projects to increase the flexibility of the educational offer.

# CHAPTER 10
# OVERVIEW AND CONCLUSIONS

## 1 INTRODUCTION

This chapter reviews the most important conclusions of the theoretical part of this study and attempts to present an integrative view on the various factors that play a major role in research on flexibility of institutes of higher education. This theoretical basis was used as a platform for the empirical part of this study. An intervention strategy to enhance flexibility has been elaborated and implemented in three Business Schools. The three sets of achieved results are discussed and compared to one another. The chapter ends by presenting some general research conclusions and by offering suggestions for further research.

## 2 THE METHODOLOGICAL ISSUES RELATED TO THIS RESEARCH

The major goal underlying this investigation is the development of new structures and practices to help institutions of higher education to respond to the triple challenge of enhancing access, swiftly aligning itself to the skills needed in the 21st century and lowering the costs per graduate. It is obvious that this research primarily aims at making a contribution to practice. In general, applied research relies on theories developed in the realm of fundamental research. Investigators are expected to solve research problems, hereby integrating the results of previous research into a workable theoretical foundation. But, the proliferation of the domain of organisational research makes it extremely difficult to construct such a basis. The controversy, opposing theories in organisational research, is in many cases not based on the usefulness of these theories for a better understanding or management of organisations, as one would expect, but refers rather to a fundamental debate in the realm of ontology and epistemology. The major issues related to this domain of inquiry have been discussed in Chapters 1 and 2 based on the contributions of Popper, Kuhn and Lakatos since the vast majority of research done in the realm of organisation studies refers to this authors.

Nowadays, mainstream research primarily confines itself to the objectivist approach to science. The critical rationalist approach as elaborated by Popper (1980; 1979; 1975; 1964) has become the dominating theory of knowledge. Broadly accepted investigation strategies have been elaborated based on the falsification principle. In terms of Popper's opponent Kuhn, one may conclude that Popper 's view has become 'normal epistemology'. Moreover, according to the critical rationalist view, theories and their utilization must be formulated so that refutation is possible.

It appears, however, that in the realm of organisational research, the failure of predictions seldom leads to the abandonment of the underlying theory. It seems, rather, to intensify the search for moderators that could somehow account for the observed data. In other words, instead of negative evidence being taken as a reason to seek alternative perspectives, negative evidence is often seen as a reason to redouble the effort to maintain the perspective.

In reference to the assault on the dominating epistemology of science, it seems fair to apply the falsification criterion to itself. So, from a scientific point of view, the more assaults on the critical rationalist approach, the better. It should be acknowledged, however, that the real challenge remains to elaborate a theory of knowledge with a greater heuristic power to solve the fundamental problems in the epistemological domain.

In order to connect this study with the results of previous investigations, the approach presented by Lakatos (1980; 1979) on research programmes offers a pragmatic basis to make a selection among the major theories. The main theories should be viewed as different research programmes, or sets of related studies aimed at solving different problems. According to this view, connections between research programmes are possible but are not yet clear.

It has been argued from a methodological point of view that a demarcation line between fundamental research and applied research does not exist. Research on planned organisational change can be classified in terms of four stages namely analysis, diagnosis, design and implementation. In the realm of studies on organisations, investigations to improve organisational output are often presented as design-oriented case-studies. There is clearly a need for more interdisciplinary collaboration during each of these different stages.

Beyond these academic distinctions, it should be stressed however that the plurality of interest in organisations has also an important impact on decision-making. As their are no scientific solutions in this area, they remain solely the responsibility of decision-makers.

As mentioned previously, higher education is at this moment facing three major challenges, namely to increase flexibility and efficiency while maintaining or enhancing the quality of the educational offer. This threefold purpose necessitates three sets of responses.

First, there is a need for a mission statement and a clear strategy. Each institute will have to define its own target groups, objectives and - eventually - strategic alliances. Ambivalence in the definition of the strategic position will hamper the realisation of increased quality and efficiency.

Second, there is a need to develop an educational offer that:

- is easily adjustable to the needs of students, labour market and society in general;
- satisfies quality criteria in relation to the elaboration of the content and the didactic presentation; and
- is capable of integrating the possibilities offered by information- and telecommunication technologies; and
- reflects a transparent credit system to enhance the possibilities of collaboration and exchange between institutes in different countries.

Finally, an organisational implementation strategy is needed. Any reform of this nature can be expected to have consequences for the organisation of the higher education establishment involved.

In order to meet these challenges, institutes will have to:

- define their educational objectives in relation to their mission and their strategy;
- design and implement procedures to translate these objectives in terms of curriculum specification and curriculum components;
- design and carry out procedures to coordinate the efforts of the different actors in the institute;
- design and implement procedures to evaluate the quality of the educational performance according to the formulated educational objectives; and
- design and implement procedures to provide teaching and courseware in a cost-efficient way.

Research programmes on organisations can be classified as belonging to one of four major paradigms, namely the 'Radical humanist paradigm', the 'Radical structuralist paradigm', the 'Functionalist paradigm' and the 'Interpretative paradigm'.

The previously mentioned goals, make theories developed within the radical humanist paradigm and the structuralist paradigm less appropriate since they study organisations in order to pursue desired radical changes and mostly impugn the implicit values of mainstream organisational research. Consequently, the interpretative paradigm and the functionalist paradigm are the available ones for this research. Both paradigms presuppose that organisations are unitary systems directed towards the achievement of common goals. The differences between these two paradigms, discussed at length in Chapters 1 and 2, are principally based on ontological, epistomological and methodological premisses, defined as the objectivist and the subjectivist approach to social sciences. The epistemological problem, as has been argued, is related to an extremely difficult metaphysical debate rooted in problems already formulated in antiquity, and far beyond our possibilities to solve. But, in as much as the objectivist approach has offered the most elaborate attempt to solve the demarcation problem - which is the most fundamental problem of science - it is assumed to be the most reliable approach to science.

Since the late 1980's, attempts have been made to integrate various perspectives to pragmatically overcome this fundamental debate. Obviously, more researchers seek to combine the results of scientific inquiry of different schools of thought. In relation to the objectives of this research, a similar approach seems appropriate. Various perspectives developed within the functionalist and interpretative paradigm have been examined in Chapter 3 and have been integrated into one conceptual blueprint that has served as a reference for the design and implementation the strategies which have been devised.

## 3 THE ORGANISATION OF HIGHER EDUCATION AND FLEXIBILITY

In Chapter 3, an attempt was made to answer the following questions:
- How should institutes of higher education be organised to match the actual and future demands and opportunities?
- Should educational reforms be introduced via a top-down or a bottom-up strategy?

With respect to the first question, aspects of seven research programmes have been examined enabling the following conclusions to be drawn.

1. An effective organisation and education policy can only be developed when an institution's general policy reflects a high degree of consistency with the main actors in its environment. Institutes for higher education must therefore rationalise their interaction with environmental actors and make the most appropriate choices. A clear strategic position will potentially allow administrators and managers to pay more attention to educational matters of strategic importance as there is less need for smoke and mirrors as soon as there is a clear mission and strategy.

2. The best instruments for influencing the performance of an academic staff for promoting continuous improvements are recruitment policies, socialisation and professionalisation. With respect to higher education, recruitment policies should pay sufficient attention to the didactic capacities of teachers. Further, socialisation should enhance cohesion between teachers. Within this context, administrative tasks must be assigned to all teachers. The majority of research points out that co-ordination must be tightened to realise important changes. The institution of temporary work alliances are a minimum condition to realise the necessary co-operation for innovation.

3. There are always conflicts of interest within an institution which may be heightened by the processes of educational reform and organisational adjustment. In practice, each significant change of direction will present an institution's managers with certain alternatives so that the avoidance and resolution of conflicts will always be important. If internal conflicts are ignored, useful educational instruments may become the subjects of conflict without the actual problems being addressed.

4. Student - orientation, design and evaluation are at the heart of Total Quality Management in education. It has been argued that the enhancement of quality does not necessarily increase the costs. Professionalisation in this direction must involve training for systematic problem-solving, experimentation, and the transfer of knowledge in relation to curriculum development and course development. The majority of perspectives considered see human resources management as the key to enhance organisational and educational flexibility. Finally, the reward system must reflect the educational policy to create sufficient compliance with the educational goals of the institute.

With respect to whether educational reforms should be introduced by means of a top-down or a bottom-up strategy, it has been stressed that the answer depends very much on the nature of the reform. A top-down approach is most appropriate for innovation projects which:

- involve all hierarchical layers of the organisation;
- have important consequences for students;
- have a substantial influence on the infrastructure of the institution; and
- have the potential to influence the institution's relationship with the government and/or the labour market.

The top-down approach also offers the greatest degree of certainty in relation to less complex projects for which structural provisions are required. A top-down approach based on the relay principle helps to increase the involvement of the staff at large. This involves the incremental execution of the institution's policies, with all interested parties being consulted at each stage. In this sense, an attempt has been made to combine the benefits of a top-down approach with those of a bottom-up approach.

## 4 MODULARISATION AND THE ENHANCEMENT OF FLEXIBILITY

The transition from classical educational systems towards more open and flexible educational systems was discussed in Chapter 4. It has already become clear that modularisation can make an important contribution to this transition process.

Experience in designing and using modular study material aimed at self-study has primarily been acquired in the field of distance education. Though, modularisation can be introduced in widely divergent educational systems, it is often connected to the cognitive approach which promotes the 'active learner' concept. According to this view, instruction consists of creating situations in which students actively increase the amount of knowledge in their repertoire.

In higher professional education, modularisation is generally regarded as a means to organise the programme more efficiently, hereby emphasising the benefits of independent learning in line with the 'active learner' concept. At the same time, an effort is being made to use this approach to improve the educational quality and to enhance the efficiency of the institute. Finally, the transparency of a modular systems is reflected by the modular credit system that eliminates many of the thresholds for transfer of students and courses between different institutes, in either a national or a European context. In this sense, a modular curriculum can be seen as an extension of the European Community Course Credit Transfer System.

It has become clear that educational innovation goes hand in hand with organisational change. In accordance with the findings on management and organisation in higher education discussed in Chapter 3, a policy model has been presented to introduce a modularisation programme in a systematic way.

A modularisation programme should be carried out in three stages. During the first stage, modularisation is primarily a matter of policy in which the objectives are of paramount importance. The decision to divide the study load into standardised units is usually made in this stage. In terms of flexibility and student-orientation, this makes the programme easier to deal with and allows a better distribution of the study load. With regard to the aim of increasing the accessibility of the programme, this stage provides a basis to determine how an exemptions policy needs to be adapted. The first stage of modularisation does not necessarily lead to further stages. A number of institutes may restrict themselves to this stage. In the next two stages, it is also conceivable that not all projects are equally ambitious. Because objectives and possibilities vary from institute to institute, the design and elaboration of a modularisation programme are always 'made to measure'.

The second stage of modularisation is at the curriculum level. On the basis of the demands of the labour market, the final requirements for receiving a diploma and the objectives of the modularisation programme, a decision is made for each module as to whether a module will be offered for classroom use, for individual self-study, or as a mixture of both. This curriculum design method permits rapid adjustment of courses to new developments whereby the institute's ability to adapt its curriculum is increased. With regard to the integration of new media, which often break through the traditional grade structure, modules for self-study offer an extra incentive provided that they are financially feasible. It's well designed nature offers students the opportunity for a more diversified educational mix and the use of different didactic work methods. Students who wish to complete the course at an accelerated pace may also have the opportunity to do so. Finally, this system makes it possible for an institution to offer a flexible study programme to students who differ in prior education.

The third stage is the logical elaboration of a number of decisions made in stage 1 and stage 2. According to the plan, specific modules are elaborated every year, each requiring a number of decisions at the curriculum level. This can be efficiently done because the frameworks for both policy and didactics are now clear. It is possible at this level, for example, to offer a higher degree of flexibility and openness by including additional study help and/or specific assignments in modules to better meet the wishes of particular categories of students. Finally, a framework for developing modules was presented along with a format for elaborating the study guide in a concise manner.

## 5 PROJECT MANAGEMENT AND EFFICIENT MODULE DEVELOPMENT

Chapter 5 described how the process of module development can be organised in an effective way. Project management is a combination of planning and control techniques which have proven their worth in organisations in which high task complexity goes hand in hand with a dynamic environment. Starting from the assumption that it is worthwhile to develop a method for carrying out the various activities involved in extensive modularisation programmes, a project-based approach has been developed for the development of modules.

Efficient and effective module development requires systematic planning and control of time, quality, information, organisation and money. In accordance with these generally accepted basic principles of project management, these techniques were elaborated and translated to an educational environment. The module development process was divided into a number of different activities forming the basis of project planning. The activities distinguished are: global course description, course plan, production of course materials, draft course and publication. A striking aspect is that quite simple techniques, such as Bar and Gantt charts, are sufficient for the progressive planning of an annual production table. The advantages of this method are that it allows optimal utilisation of staff capacity and material resources, that it provides a better overview of the various projects and that it allows better subsequent financing of each module. Most teachers, however, do not have experience in working with these techniques in numerous studies. Teachers have explicitly expressed their need for professionalisation in a number of fields. This applies, for example, to the specific skills required for the development of modules and the knowledge and techniques required for active project management.

It may be concluded from this that active human resources management is required to create the conditions which will allow teachers to fulfil their new tasks adequately in a modular learning environment.

## 6 THE DUTCH GOVERNMENT'S AGENDA FOR THE YEARS TO COME

The Dutch government hopes to improve the effectiveness of the educational institutes while reducing their costs. At the same time, it hopes to achieve a flexible educational system which is increasingly able to meet the demand for a more differentiated range of educational programmes offered.

For higher professional education, these intentions have been translated into various policy measures. A large-scale operation of mergers was set up, during which more than 340 HBO institutes were merged into 80 larger HBO institutes. The underlying assumption is that these HBO institutes will have sufficient organisational capacity to develop the education that they offer in such a way so as to satisfy the requirements of the Dutch society. To be effective, these institutes need to have the necessary resources at their disposal.

The system of lump sum financing has contributed to a greater autonomy for the HBO institutes. Specific financing takes place on the basis of development plans which the individual HBO institutes present to the minister. Financing has thus come to act as an important mechanism for indirect steering. Since it was started, the HBO Council has acted as the co-ordinator of the merger operation, and has since been the pivotal instance in consultations between the HBO institutes themselves as well as in their consultations with the government.

## 7 THE RESULTS OF THE MODULARISATION PROJECTS IN THE THREE BUSINESS SCHOOLS

The following section summarises the main points of three modularisation projects carried out. The intention is to synthesize the separate experiences and, in doing so, to raise the discussion to a more general level.

## 7.1 The educational dimension of flexibilisation in the three institutes

Figure 10.1 summarises the modularisation project carried out at the *Hogeschool Eindhoven* at the School for Management, Economics and Law:

| **School for Management, Economics and Law** (modularisation: phase 2) | **Situation** | **Objectives project 1993-1994** |
|---|---|---|
| Form | Dual mode | Status quo |
| Location | Classroom teaching<br><br>Independent study | Creation of various effective learning experiences for students<br><br>Focus on 'independent study' |
| Organisation over time | Block system | Status quo<br><br>Re-scheduling, (optimal distribution of the study load) |
| Labour market requirements | Professional profile | Analyse du programme et peaufinage du profil professionnel |
| Modularisation | Module as a planning unit | Module as a study unit |
| Separate courses | No | No |
| Use of information- and telecommunication technologies | To a limited extent | Status quo |
| Independent learning/ face-to-face teaching | 50% | 60% |

Figure 10.1: *Hogeschool Eindhoven,* educational parameters of the modularisation project

A relatively large amount of time and energy was spent during the project on distributing the study load in the most efficient way possible over the semesters of the main programme phase. Altering the modules' timetable for the various blocks involves a strikingly complex process of planning and negotiation. That is why the project concentrated, above all, on the framework plan for modularisation. Planning and logistic aspects are often incorrectly viewed as being of lesser importance.

As stated in the project description, the new framework plan for modularisation allowed the teaching staff the opportunity of organising their contact hours differently than before. The traditional pattern of teaching large groups of students is only one option among many others in the new approach. This aspect should be given special consideration in the years ahead so that the various options are utilised in the most effective way possible.

The development of modules is the third step and required great care and preparation. The entire teaching staff produced module work books with a greater emphasis on independent study which gave the students enough information to organise their learning activities on their own. The modules combine independent study and contact hours.

Figure 10.2 presents an overview of the project carried out in the Programme for Business and Languages at the *Hogeschool 's- Hertogenbosch*:

| **Programme for Business and Languages** (modularisation: phase 2) | **Situation** | **Objectives project 1993-1994** |
|---|---|---|
| Form | Dual mode | Status quo |
| Location | Classroom teaching<br><br>Independent study | Creation of various effective learning experiences for students<br><br>Focus on 'independent study' |
| Organisation over time | Semester | Status quo |
| Labour market requirements | Professional profile | Analysis of the programme and fine-tuning to the professional profile |
| Modularisation | Module as a planning unit | Module as a study unit |
| Separate courses | No | No |
| Use of information- and tele-communication technologies | To a limited extent | Status quo |
| Independent learning/ face-to-face teaching | 50% | 50% |

Figure 10.2: *Hogeschool 's-Hertogenbosch,* educational parameters of the modularisation project.

It became clear during this project, that the professional profile and the exit qualifications provided a useful framework for discussing the content and the objectives of each course. Besides this directional aspect, an elaborated professional profile made it possible to relate the various subjects to one another. Co-ordinated efforts have very quickly led to results which are expected to be in line with the overall objectives of the institution. The modules developed are a mixture of materials for independent study and collective learning activities.

The transition from a semester system to a block system is on the agenda. On this issue a collective agreement between the different Business programmes of the Hogeschool is imperative because of various planning interdependencies.In Figure 10.3 an overview is presented of the major educational goals of the project carried out in the *Ecole Supérieure de Commerce Lille* (France).

| **Ecole Supérieure de Commerce** (modularisation: phase 1) | **Situation** | **Objectives project 1993-1994** |
|---|---|---|
| Form | Classroom teaching | Status quo |
| Location | Classroom | Creation of various effective learning experiences for students |
| Organisation over time | Semester | Status quo |
| Labour market requirements | Professional profile | Analysis of the programme and fine-tuning to the professional profile |
| Modularisation | European Transfer Credit System | Module as a planning unit |
| Separate courses | No | Yes |
| Use of information- and tele-communication technologies | Ampleur limitée | Status quo |
| Independent learning/ faec-to-face teaching | To be specified | Status quo |

Figure 10.3: *Ecole Supérieure de Commerce Lille*: educational parameters of the modularisation project.

This first phase of modularisation has contributed to the adaptability of the programme to the requirements of the labour market. Furthermore, the analysis of the programme in terms of competences and attitudes that a student has to master in order to obtain a degree makes it possible to evaluate the study programme and to introduce modifications where necessary. In addition, the transparency of the programme has been further elaborated by the analysis of the objectives to which each course contributes. Thus a better co-ordination is ensured between the different courses of the programme.

This constitutes a solid base for collaboration with other French and European institutions within the framework of the development of the courses and/or of common programmes. In this respect, these elements have enhanced both flexibility aspects and quality.

Future issues on the agenda for flexibility are the the design of learning environments promoting 'independent learning' among students which is in fact the core element of the second phase of modularisation.

## 7.2 The management issues of the transition towards more flexibility

As described in Chapter 4, a top-down approach was taken at the three institutions. Aspects decided on centrally had to do with the:

- mission;
- modularisation objectives;
- starting date of each academic year/semester;
- study load per year and per module;
- examination periods.

Ensuring common points of departure increases the efficiency of the development process, because all of the staff involved follow a clearly charted course. This is an argument in favour of making agreements at the central level concerning the aspects mentioned above. It should also be noted that determining a systematic plan for an entire institution also fosters cooperation between the various faculties and programmes.

The Dutch Business Schools involved in the study are organised according to study programme, whereas the French Business School is organised according to academic disciplines. As the outcome at all three Business Schools was satisfactory, there is little reason to believe that either one of these organisational structures will prevent an institution from attaining good results. The most important requirement is that the institution achieves the co-operation and co-ordination necessary to develop the most favourable curriculum.

Direct responsibility during the projects was assumed by the programme directors. The programme directors of the Dutch Business Schools and the management of the French Business School were involved in both setting up and implementing each step of the modularisation programme. Their involvement was a decisive factor in accomplishing the results achieved. All other factors being equal, it can be said that the commitment and the persuasiveness of management play a major role in determining the success of structural innovation in higher education.

This is an argument in favour of greater participation by line management in projects to increase both quality and efficiency than has been the case until now.

At each of the three institutions, the Board was aware of the initiatives taken and supported them fully. This level of involvement made clear to all those concerned that the efforts required were considered necessary for meeting the demands of the present day and age. It also implied that the necessary time and resources to implement these changes would be made available.

The teaching staff received instructions on developing modules in three different forms.
- For the Management, Economics & Law programme at the *Hogeschool Eindhoven*, the staff were instructed in group training sessions. Individual assistance was also made available for those members of staff who desired this. None of the staff however, availed themselves of this opportunity, indicating that this is apparently not an effective way of offering assistance.

- A small group of volunteers were offered individual assistance in the Business and Languages programme at the *Hogeschool 's-Hertogenbosch*. The overall response to the results and the way in which they were achieved was positive. The modules developed served as examples for other staff members, demonstrating that such assistance is worthwhile, but that the way in which it is offered is equally important. It is only when assistance is provided in a systematic fashion that the majority of staff members take advantage of this opportunity and that satisfactory results are achieved by it.

- At the *Ecole Supérieure de Commerce in Lille*, teaching staff received instruction as a group during staff meetings. No special individual assistance was made available, and the staff simply turned in their work. They did not request extra assistance, nor were any suggestions made in that direction. Perhaps the most important reason for this outcome was the fact that this was the first stage of modularisation.

In the future, training sessions focusing on specific themes will be organised at each of the three institutions. The main themes will be the development of material for independent study; methods of encouraging active participation by students; use of information and telecommunications technology; and (international) co-operation with other institutions.

Figure 10.4 shows those aspects which were important in setting up and implementing the modularisation projects at the three institutions:

| **Business School** | **Hogeschool Eindhoven** | **Hogeschool 's-Hertogenbosch** | **Ecole supérieure de Commerce de Lille** |
|---|---|---|---|
| Top-down | General policy framework for modularisation | General policy extensive decentralisation to the level of the study programmes | General policy framework for modualrisation |
| Organisational structure | Study programmes | Study programmes | Scientific departments |
| Line management in charge | Study director | Study director | Director |
| Participation of the Administrative Board | Indirectly | Indirectly | Indirectly |
| Instructions for teachers | Collectively | Individually | Collectively |
| Future didactic training teachers | Conferences on specific items | Conferences on specific items | Conferences on specific items |

Figure 10.4: Managerial parameters of the reforms in the three Business Schools involved.

# 8 GENERAL CONCLUSIONS AND RECOMMENDATIONS FOR FURTHER RESEARCH IN HIGHER PROFESSIONAL EDUCATION

## 8.1 The institutional dimension

As the present study shows, increasing the flexibility of institutions for higher professional education enables institutions to make the transition to a dual-model system. In dual-mode institutions, the advantages of traditional teaching methods are complemented by the stronger points of distance teaching. Right now the dual-mode system is viewed as a pragmatic compromise, but it may become the dominant educational/organisational model of the future.
It is advisable, for this reason, to analyse existing dual-mode variations in order to increase our knowledge of these systems. The following aspects should be considered:

- mission;
- strategy;
- educational concept;
- organisation and co-ordination;
- the information - and telecommunication infrastructure;
- the educational and didactic parameters;
- students;
- connexions with the labour market.

## 8.2 The management dimension

The present situation obligates management to focus on both quality and efficiency. In actual practice, greater co-ordination and co-operation are needed between all of the participants than has been the case until now. A top-down approach offers a number of extra guarantees that structural innovation will be achieved, provided that management at the different levels remains involved in implementing the successive phases.

The necessity of updating professional skills of teachers and educational technologists will become increasingly evident in the next few decades in the light of the rapid progress being made on various fronts. Right now, most institutions organise training sessions to focus on specific themes, while individual members of staff attend seminars, and so on. It is not always very clear to what extent the information they receive actually relates to their own teaching practice. Given the increasing importance of professionalisation, a more effective approach must be identified.

## 8.3 The educational dimension

Distance education has built up a wealth of expertise which can be used at more traditional institutions. Within this context, modularised curricula offer a range of opportunities for flexibilisation. It is clear that it is possible to systematically introduce such innovative approaches. A modular design makes continuous improvement possible, leading step by step to better results. However, further research can be suggested for:

- translating the 'active learner' concept to an actual teaching methodology for the teaching staff;
- developing practical instruments to assess study load;
- developing user-friendly instruments which provide for a rapid evaluation of the numerous options available when drawing up timetables.

The use of various professional profiles as a guide-line for curriculum development is a major step forward in terms of ensuring that higher vocational education is well-attuned to the requirements of the labour market. Such profiles also guarantee that sufficient attention is paid to training in the actual subject matter. If these profiles and the curricula are fine-tuned to each other and adapted regularly, the courses and programmes offered will remain up to date.

## 8.4 The information - and telecommunication technology dimension

In the projects described, the focus in the first instance was mainly on introducing a modular learning environment. It is in principle possible to use information and telecommunications technology for numerous functions, ranging from computerised testing to business simulations and student services. The transparency of a modular curriculum offers countless opportunities to make systematic use of these technologies. Once again, it would be advisable to develop appropriate methods to make the process of implementation as effective as possible.

## 8.5 The European dimension

Modular learning environments offer extra opportunities for co-operation between institutions of higher education in various European countries. The development of common modules and programmes can lead to improvements in quality and a reduction in costs. This also makes it possible to offer all students programmes with a European dimension. However, optimal use of these modules developed internationally requires that a European framework plan for modularisation for each study programme, including a format for European modules will be designed. The current ECTS-system offers a platform for these developments.

## 8.6 The methodological dimension

Schools of research tend to operate autonomously. Design-oriented research integrates relevant insights of these various schools, into a workable theoretical basis. This study explored, within the context of three Business Schools, the opportunities presented by modularisation and the practicability of the approach developed. These cases provide various guide-lines for institutions who see themselves confronted with similar challenges and purposely attempt to enhance their flexibility. With hindsight to the methodological debate, these guide-lines can be considered to be heuristics which increase the probability of successful performance.

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## SUMMARY

The growing demand in most OECD-countries for more flexibility in higher education is the result of the interplay between several changes in the socio-economic environment. These changes are:

- the increased demand for knowledge and formal certification;
- shifts in labour market requirements;
- the progress in the various domains of scientific research;
- enhanced internationalisation and exchange;
- information - and telecommunication technologies;
- a reduction in public spending.

At this moment, all institutes for higher education are facing three major challenges namely the need for an increase in both flexibility and efficiency while maintaining or even enhancing the quality of the educational offer. In the face of this triple challenge each institution will have to devise a coherent solution with respect to each of the following questions:

- Which strategic options are possible?
- How can flexibility be enhanced within the given context?
- Which organisational adjustments favour this flexibility?
- How can a curriculum be developed to implement this strategy?
- How can modules be developed that meet both quality and efficiency standards?

The main purpose of this study is to devise and to carry out an architecture for organisational and educational development towards greater flexibility. This purposes necessitates three sets of responses.

The first response is a mission statement and the development of a clear strategy. Each institute will have to define its own target groups, objectives and -eventually - strategic alliances. The requirement of enhancing quality as well as efficiency means that any ambivalence in the definition of the strategic position will hamper the ability to meet either one of these requirements.

The second response necessitates the development of an educational offer that:

- is easily adjustable to the needs of the students, the labour market and society in general;
- satisfies quality criteria in relation to the elaboration of both the content and the didactic presentation;
- is capable of integrating the possibilities offered by information - and telecommunication technologies; and
- reflects a transparent credit system to enhance the possibilities of collaboration and exchange between institutes in different countries.

It has already become clear that modularisation can make an important contribution to this transition process. In principle, modularisation can be introduced in widely divergent educational systems which, from the point of view of learning theory, are based on different principles. Until now, experience in designing and using modular study material aimed at self-study has been primarily acquired in distance education.

The transparency of a modular systems is reflected by the modular credit system that eliminates many of the thresholds for transfer of students and courses between different institutes, in either a national or a European context. In this sense, a modular curriculum can be seen as an extension of the European Community Course Credit Transfer System.

Finally, an organisational implementation strategy also needs to be developed. Any reform of this nature has consequences for the organisation of the higher education establishment involved.

In order to meet these goals, institutes will have to:
- define their educational objectives in relation to their mission and their strategy;
- design and implement procedures to translate these objectives in terms of curriculum specifications and curriculum components;
- design and carry out procedures to coordinate the efforts of the different actors in the institute;
- design and implement procedures to evaluate the quality of educational performances according to the formulated educational objectives; and
- design and implement procedures to provide the teaching and the courseware on a cost-efficient basis.

In order to create a platform to introduce reforms in institutes for higher education, seven research programmes have been examined on this issue.The major conclusions are:

1. An effective organisation and education policy can only be developed when an institution's general policy reflects a high degree of consistency with the main actors in its environment. Institutes for higher education must therefore rationalise their interaction with environmental actors and make the most appropriate choices. A clear strategic position will potentially allow administrators and managers to pay more attention to educational matters of strategic importance.

2. The best instruments for influencing the performance of an academic staff for promoting continuous improvements are recruitment policies, socialisation and professionalisation. With respect to higher education, recruitment policies should pay sufficient attention to the didactic capacities of teachers. The majority of research points out that co-ordination must be tightened to realise important changes.

3. There are always conflicts of interest within an institution which may beheightened by the processes of educational reform and organisational adjustment. In practice, each significant change of direction will present an institution's managers with certain alternatives so that the avoidance and resolution of conflicts will always be important. If internal conflicts are ignored, useful educational instruments may become the subjects of conflict without the actual problems being addressed.

4. Student-orientation, design and evaluation are at the heart of Total Quality Management in education. It has been stressed that the enhancement of quality does not necessarily increase the costs. Professionalisation in this direction must involve training for systematic problem-solving, experimentation, and the transfer of knowledge in relation to curriculum development and course development. The majority of perspectives considered see human resources management as the key to enhance organisational and educational flexibility. Finally, the reward system must reflect the educational policy to create sufficient compliance with the educational goals of the institute.

With respect to whether educational reforms should be introduced by means of a top-down or a bottom-up strategy, it has been argued that the answer depends very much on the nature of the reform. A top-down approach is most appropriate for innovation projects which:

- involve all hierarchical layers of the organisation;
- have important consequences for students;
- have a substantial influence on the infrastructure of the institution; and
- have the potential to influence the institution's relationship with the government and/or the labour market.

Three projects have been carried out in line with these findings and the approach developed on modularisation in Chapter 4 in two Business Schools in the Netherlands and the Ecole Supérieure de Commerce, Lille in France. The devised educational and organisational architecture has been a very useful platform to introduce the necessary reforms.

The following Figure shows those aspects which were important in setting up and implementing the modularisation projects in each of the three institutions:

| **Ecole de commerce** | **Hogeschool Eindhoven** | **Hogeschool 's-Hertogenbosch** | **Ecole supérieure de Commerce de Lille** |
|---|---|---|---|
| De haut en bas (*top-down*) | Cadre stratégique pour la modularisation | Politique générale: décentralisation extensive vers le niveau des programmes d'études | Cadre stratégique pour la modularisation |
| Organisation | Programme d'études | Programme d'études | Départements scientifiques |
| Responsable | Directeur du programme | Programme d'études | Directeur de l'Ecole |
| Participation de la direction générale | Indirectement | Indirectement | Indirectement |
| Instructions pour les enseignants | Collectivement | Individuellement | Collectivement |
| Formation des enseignants | Stages sur des thèmes spécifiques | Stages sur des thèmes spécifiques | Stages sur des thèmes spécifiques |

Managerial parameters of the reforms in the three Business Schools involved.

In this study, the focus was mainly on introducing a modular learning environment. It is in principle possible to use information - and telecommunication technology for numerous functions, ranging from computerised testing to business simulations and student services. The transparency of a modular curriculum offers countless opportunities to make systematic use of these technologies. Once again, it would be advisable to develop appropriate methods to make the process of implementation as effective as possible.

Modular learning environments offer extra opportunities for co-operation between institutions of higher education in various European countries.
The development of common modules and programmes can lead to improvements in quality and a reduction in costs. This also makes it possible to offer all students programmes with a European dimension. However, optimal use of these modules developed internationally requires that a European framework plan for modularisation for each study programme, including a format for European modules will be designed.

The present study shows that institutions for higher professional education are evolving towards dual-model systems in order to increase their flexibility. In dual-mode institutions the advantages of traditional teaching methods are complemented by the stronger points of distance teaching. Right now the dual-mode system is viewed as a pragmatic compromise, but it may become the dominant educational/organisational model of the future.

## RESUME GENERAL

La demande croissante dans la plupart des pays de l'O.C.D.E. pour plus de flexibilité dans l'enseignement supérieur est le résultat de la conjonction entre plusieurs changements socio-économiques. Ceux-ci sont en l'occurrence:

- la demande croissante de connaissances et de certifications formelles;
- le progrès dans les différents domaines de la science;
- les exigences changeantes du marché du travail;
- la croissance des échanges dans un contexte international;
- l'impact des technologies de l'information et des télécommunications;
- la réduction des dépenses publiques.

A l'heure actuelle, chaque institution d'enseignement supérieur doit faire face à trois défis importants: un besoin d'augmentation de la flexibilité et, de l'efficacité et en même temps, la qualité et l'accès à l'offre éducative doivent être assurés ou améliorés.
Face à ces défis, chaque institution devrait trouver des réponses cohérentes à chacune des questions suivantes:

- quelles sont les options stratégiques possibles à l'institution?
- comment la flexibilité peut-elle être améliorée?
- quels ajustements organisationnels peuvent favoriser cette flexibilité?
- comment un programme d'études peut-il être développé pour la mise en oeuvre de cette stratégie?
- comment des modules peuvent-ils être développés tout en respectant les normes de qualité et d'efficacité?

L'objet principal de cette étude est d'apporter à la fois une contribution à la recherche sur le management des institutions d'enseignement supérieur et de concevoir une architecture pour le développement organisationnel et pédagogique vers une plus grande flexibilité.

Ces objectifs nécessitent trois ensembles de réponses.
La première réponse est la formulation de la mission et le développement d'une stratégie claire. Chaque institution devra définir ses propres groupes-cibles, ses objectifs et - éventuellement - ses alliances stratégiques. Les exigences de qualité aussi bien d'efficacité signifient que toute ambivalence dans la position stratégique entraverait l'habileté de satisfaire l'une ou l'autre de celles-ci.

La deuxième réponse requiert le développement d'une offre éducative qui:
- est facilement adaptable aux besoins des étudiants, du marché du travail et de la société en général;
- répond à des critères de qualité par rapport à l'élaboration du contenu et de la présentation didactique;
- est capable d'intégrer les possibilités offertes par les technologies de l'information et des télécommunications;
- reflète un système de crédits transparent pour améliorer les possibilités de la collaboration et de l'échange entre les institutions de différents pays.

Enfin, une stratégie de mise en oeuvre organisationnelle doit être développée. Toute réforme de cette nature a des conséquences pour l'organisation de l'institution d'enseignement supérieur concernée.
Afin d'atteindre ces buts, les instituts devraient:

- définir leurs objectifs pédagogiques par rapport à leur mission et leur stratégie;
- concevoir et mettre en oeuvre des procédures pour traduire ces objectifs en termes de spécification de programme d'études et des composants de programme d'études;
- concevoir et effectuer des procédures pour coordonner les efforts des différents acteurs dans l'institut;
- concevoir et mettre en oeuvre des procédures pour évaluer la qualité de la performance scolaire selon les objectifs pédagogiques formulés;
- concevoir et mettre en oeuvre des procédures pour fournir un enseignement et des matériaux didactiques sur une base de coûts acceptables.

La transition des systèmes d'éducation classiques vers des systèmes éducatifs plus ouverts et flexibles est incrémentale. Il se dégage clairement que la modularisation peut apporter une contribution importante à ce processus de transition.

En principe, la modularisation peut être introduite dans des systèmes d'éducation largement divergents, du point de vue de la théorie du développement cognitif. Dans la pratique, la modularisation est souvent reliée à l'approche cognitive qui favorise le concept de *active learning*. Selon cette vue, l'instruction consiste à créer des situations dans lesquelles les étudiants augmentent activement leurs connaissances. Jusqu'à nos jours, l'expérience en conception et usage du matériel didactique modulaire a été principalement acquise dans l'enseignement à distance.

En ce qui concerne la première question, sept programmes de recherche ont été discutés pour déduire les conclusions suivantes:

1. Une politique efficace d'organisation et d'enseignement peut seulement être élaborée quand la politique générale d'une institution recèle un degré élevé de compatibilité avec les acteurs principaux dans son environnement. Les institutions doivent donc rationaliser leur interaction avec les acteurs de leur environnement et y faire les choix les plus adéquats. Une position stratégique claire permettra aux dirigeants de porter plus d'attention aux sujets d'enseignement d'importance stratégique dès qu'ils n'ont plus tellement besoin "de fumée et de miroirs".

2. Afin de promouvoir des améliorations continues, les meilleurs instruments pour influencer la performance du personnel académique sont la politique de recrutement, la socialisation et la formation continue du personnel. Pour l'enseignement supérieur, les politiques de recrutement devraient prêter suffisamment d'attention aux capacités didactiques des enseignants. De plus, la socialisation devrait améliorer la cohésion entre les enseignants. Dans ce contexte, l'attribution des tâches administratives doit être dirigée vers tous les enseignants. La majorité de la recherche précise que la coordination doit être plus forte pour réaliser des changements importants. Les alliances temporaires de travail sont une condition minimale pour réaliser la coopération nécessaire pour l'innovation.

3. Des conflits d'intérêt au sein d'une institution peuvent toujours être amplifiés par un processus de réforme de l'enseignement et de développement organisationnel. Dans la pratique, chaque modification significative offre certaines solutions alternatives aux directeurs d'une institution de sorte que la prévention et la résolution des conflits soient toujours importantes. Si des conflits internes sont ignorés, les instruments pédagogiques utiles peuvent devenir des pommes de discorde sans que les vrais problèmes ne soient abordés.

4. L'orientation vers le client, la conception et l'évaluation du client sont le noyau de la gestion de la qualité totale dans l'enseignement. Il a été souligné que l'amélioration de la qualité n'augmente pas nécessairement les coûts. Dans ce sens, la formation continue du personnel académique doit impliquer un entraînement pour la résolution systématique des problèmes, l'expérimentation, et le transfert des connaissances par rapport au développement du curriculum et des cours. La majorité des perspectives considérées proposent la gestion des ressources humaines comme la clé au développement organisationnel et de l'enseignement. En outre, le système de récompense doit être le reflet de la politique d'enseignement à créer suffisamment de conformité avec les objectifs stratégiques de l'institut.

En rapport à la question, si les réformes de l'enseignement devraient être introduites à l'aide d'une stratégie *top-down* ou *bottom-up*, la réponse dépend largement de la nature de la réforme. De même, ce travail fait valoir qu'une approche *top-down* est la plus adéquate pour les projets d'innovation qui:

- impliquent tous les niveaux hiérarchiques de l'organisation;
- qui ont des conséquences importantes pour les étudiants;
- qui ont une influence substantielle sur l'infrastructure de l'institution;
- ont le potentiel d'influencer les relations de l'institution avec le gouvernement et/ou le marché du travail.

La partie empirique de cette recherche comporte des études de cas et les approches développées sont décrites pour mettre en oeuvre la transition vers davantage de flexibilité. Ces cas fournissent une série d'orientations pour les institutions qui se voient confrontées à des défis similaires et essaient volontairement d'améliorer leur performance. En raison de la nature internationale de ce problème de recherche, l'investigation porte sur deux institutions d'Enseignement Professionnel Supérieur (Eindhoven et 's-Hertogenbosch) aux Pays-Bas et l'Ecole Supérieure de Commerce (Lille) en France.

La Figure ci-dessous présente un aperçu des apects les plus importants de l'organisation des trois projets:

| **Ecole de commerce** | **Hogeschool Eindhoven** | **Hogeschool 's-Hertogenbosch** | **Ecole supérieure de Commerce de Lille** |
|---|---|---|---|
| De haut en bas (*top-down*) | Cadre stratégique pour la modularisation | Politique générale: décentralisation extensive vers le niveau des programmes d'études | Cadre stratégique pour la modularisation |
| Organisation | Programme d'études | Programme d'études | Départements scientifiques |
| Responsable | Directeur du programme | Programme d'études | Directeur de l'Ecole |
| Participation de la direction générale | Indirectement | Indirectement | Indirectement |
| Instructions pour les enseignants | Collectivement | Individuellement | Collectivement |
| Formation des enseignants | Stages sur des thèmes spécifiques | Stages sur des thèmes spécifiques | Stages sur des thèmes spécifiques |

Figure: Aspects organisationnels des trois projets de modularisation

Dans les projets décrits, le centre d'intérêt était principalement l'introduction d'un environnement modulaire. En principe, il est possible d'utiliser les technologies de l'information et des télécommunications pour de nombreuses fonctions, allant des tests automatisés aux simulations et des services à des études. La transparence d'un programme d'études modulaire offre des possibilités multiples d'utiliser systématiquement ces nouvelles technologies. De nouveau, il est à conseiller de développer des méthodes appropriées pour garantir le processus de mise en oeuvre de celles-ci.

Les environnements d'enseignement modulaire offrent des opportunités supplémentaires pour la coopération entre les institutions d'enseignement supérieur de différents pays européens. Le développement des programmes et modules communs peut mener à l'amélioration de la qualité et une réduction des coûts. En outre, cette approche permet d'inclure une dimension européenne dans tous les programmes d'étudiants. Pour assurer un bon usage des modules développés par des institutions de différents pays, il serait utile de concevoir un curriculum modularisé pour chaque programme d'études. Le système ECTS, éventuellement élargi avec un plan de module, procure dans cette perspective de meilleures conditions de départ.

Comme la présente étude l'a montré, l'augmentation de la flexibilité des institutions d'enseignement professionnel supérieur amène que celles-ci vont évoluer vers des sytèmes éducatifs dualistes, c'est-à-dire un enseignement en salles de classe alterné avec l'étude individuelle au moyen des matériaux auto-instructifs. Dans les institutions de ce type, les avantages des méthodes traditionnelles d'enseignement sont complétés par les points forts de l'enseignement à distance. En ce moment, le système dualiste est vu comme un compromis pragmatique, mais il peut devenir le modèle éducatif/organisationnel dominant des années futures.

## SAMENVATTING

De toenemende vraag naar een meer gedifferentieerd onderwijsaanbod in de meeste OESO-landen het gevolg van een samenspel tussen verschillende omgevingsfactoren. De meest belangrijke hiervan zijn:

- een toenemende vraag naar formeel erkende opleidingen;
- de snel wijzigende behoeften van de arbeidsmarkt;
- de kennistoename op diverse wetenschappelijke terreinen;
- een toename van internationale handel en uitwisseling;
- de mogelijkheden van de informatie - en de telecommunicatie technologie
- de bezuinigingen opgelegd door de overheid.

Op dit ogenblik zijn flexibiliteit, kwaliteit en efficiëntie de toetsstenen voor elke instelling voor hoger onderwijs. Om aan deze uitdaging het hoofd te kunnen bieden dient elke instelling een coherent antwoord te zoeken voor de volgende vragen:

- Welke strategische scenario's zijn mogelijk?
- Hoe kan, binnen een bepaalde context, de flexibiliteit worden vergroot?
- Welke organisatorische aanpassingen zijn nodig om de vooropgestelde doeleinden te bereiken ?
- Hoe ziet een curriculum eruit dat aan deze eisen beantwoordt?
- Hoe kunnen afzonderlijke modules worden ontwikkeld die voldoen aan de gestelde normen voor kwaliteit en efficiëntie

In dit onderzoek werd een architectuur ontwikkeld en toegepast om een grotere flexibiliteit te bewerkstelligen. Om dit doel te bereiken waren er antwoorden nodig op vragen van zeer verschillende orde.

Op de eerste plaats dwingt het verhogen van tegelijkertijd de flexibiliteit, de kwaliteit en de efficiëntie tot het kiezen van een duidelijke missie en een coherente strategie. Elke instelling is gehouden haar doelgroep(en) te kiezen, doelstellingen te definiëren en - eventueel - een aantal strategische allianties aan te gaan. Elke vorm van ambivalentie bij het bepalen van de strategische koers zal de realisering van vooropgestelde doeleinden in de weg staan.

Op de tweede plaats is het noodzakelijk een onderwijsaanbod te ontwikkelen dat:
- op een flexibele manier aanpasbaar is aan de eisen van de studenten, de arbeidsmarkt en de samenleving in het algemeen;
- voldoet aan kwaliteitscriteria inzake inhoud en didactische presentatie;
- een integratie toelaat van de mogelijkheden van informatie - en telecommunicatie technologie; en
- samenwerking toelaat tussen verschillende instellingen in het binnen- en buitenland op basis van een transparant vrijstellingen systeem.

Het is inmiddels duidelijk dat modularisering een belangrijke stap kan zijn in dit veranderingsproces. In principe kan modularisering toegepast worden in verschillende onderwijsinstellingen die inzake leertheoretische uitgangspunten uiteenlopende opvattingen onderschrijven.

Tot op dit ogenblik is de meeste ervaring met het ontwikkelen van modulaire curricula en zelfstudie materiaal opgedaan in instellingen voor afstandsonderwijs.

De transparantie van een modulair curriculum komt het meest tot uiting in het vrijstellingenbeleid dat mogelijk is in dit systeem. Op deze manier wordt een belangrijke hinderpaal voor samenwerking tussen instellingen en uitwisseling van studenten uit de weg geruimd. In deze zin is modularisering te zien als een verdere uitwerking van het European Community Course Credit Transfer System.

Tenslotte, er is behoefte aan een organisatorische aanpak die de invoering van de gewenste aanpassingen mogelijk maakt. Elke verandering van deze omvang heeft consequenties voor de organisatie van de betrokken instelling. Om hieraan tegemoet te komen is het van belang dat elke instelling:

- de doelstellingen vaststelt met betrekking tot de onderwijstaken in samenhang met de missie en de strategie van de instelling;
- procedures ontwikkelt en invoert om deze doelstellingen te vertalen naar het curriculum en de curriculum onderdelen;
- procedures ontwikkelt en invoert om de nodige coördinatie tussen de verschillende actoren tot stand te brengen;
- procedures ontwikkelt en invoert om de kwaliteit van het onderwijsaanbod te evalueren; en
- procedures ontwikkelt en invoert om de diverse aktiviteiten met betrekking tot het onderwijsaanbod zo efficiënt mogelijk te laten verlopen.

Om een antwoord te geven op de vraag- Hoe dienen veranderingsprocessen ingevoerd te worden in instellingen voor hoger onderwijs ?- werden zeven onderzoeksprogramma's doorgenomen. De belangrijkste conclusie die daarbij naar voren kwamen zijn:

1. Een effectief beleid op het gebied van organisatie van onderwijs kan enkel ontwikkeld worden indien het beleid van een instelling een grote mate van overeenkomst vertoont met het beleid van de belangrijkste partners in de omgeving. Om dit te kunnen bereiken is het zaak dat instellingen keuzes maken. Een duidelijke strategische positionering maakt het in principe mogelijk dat belangrijke onderwijszaken de aandacht krijgen die ze verdienen vanaf het ogenblik dat de behoefte aan rookgordijnen minder wordt.

2. De meest geschikte instrumenten om de prestaties van de academische staf continu te verbeteren zijn recrutering, socialisering en professionalisering. In het bijzonder in het hoger onderwijs is het van belang om aan de didactische kwaliteiten van docenten voldoende aandacht te besteden. Uit de meerderheid van de onderzoeksprogramma's kan afgeleid worden om structurele veranderingen in te voeren de coördinatie dient versterkt te worden.

3. In alle organisaties komen belangen tegenstellingen voor en door veranderingsprocessen kunnen deze aangescherpt worden. Instellingen voor hoger onderwijs vormen op dit punt geen uitzondering. In de praktijk is het voorkomen en oplossen van conflicten een belangrijk onderdeel van de taak van de leiding. Het niet onderkennen van deze spanningen kan er toe leiden dat didactische instrumenten de inzet van de discussie worden terwijl de werkelijke problemen niet eens op tafel liggen.

4. Student-gerichtheid, ontwerp en evaluatie vormen de kern van Totale Kwaliteitsbeheersing in het onderwijs. Uit vele studies blijkt dat kwaliteitsverbetering niet noodzakelijk tot kostenverhoging leidt. Professionalisering, in deze context, houdt in dat bij trainingen vooral aandacht moet geschonken worden aan methoden die een systematische probleem-aanpak mogelijk maken, de daadwerkelijke transfer van nieuwe kennis in relatie tot curriculum - en module - ontwikkeling en voldoende ruimte om te experimenteren. De meeste onderzoeksprogramma's leggen ook hier het accent op het personeelsbeleid als de sleutel tot meer flexibiliteit en kwaliteit. Tenslotte, wordt er op gewezen dat de beloningsstructuur normaliter het beleid van de instelling inzake onderwijs kan ondersteunen.

Een bijkomend aspect is de vraag of onderwijsvernieuwingen dienen ingevoerd te worden middels een top-down of een bottom-up strategie ? Het antwoord is afhankelijk van de aard van de vernieuwing. Een top-down benadering is het meest geschikt voor innovatie projecten waarbij:

- alle hiërarchische lagen van een instelling betrokken zijn;
- belangrijke gevolgen zijn voor de studenten;
- de infrastructuur van de instelling een belangrijke functie vervult; en belangrijke gevolgen te verwachten zijn voor de relatie van de instelling tot het ministerie en/of de arbeidsmarkt.

Tijdens het empirische gedeelte van dit onderzoek zijn drie projecten uitgevoerd in overeenkomst met deze bevindingen en de in Hoofdstuk 4 ontwikkelde aanpak voor modularisering in twee HEAO's in Nederland en een Ecole Supérieure de Commerce in Lille (Frankrijk). De in deze studie ontwikkelde architectuur is daarbij een nuttig platform gebleken voor de invoering van de nodige hervormingen. In de volgende Figuur wordt een overzicht geboden van de aspecten die daarbij van belang waren:

| **Instelling** | **Hogeschool Eindhoven** | **Hogeschool 's-Hertogenbosch** | **Ecole supérieure de Commerce de Lille** |
|---|---|---|---|
| Top-down | Instellingsplan inzake modularisering (top-down) | Decentralisatie naar de Studierichtingen | Instellingsplan inzake modularisering (top-down) |
| Organisatiestructuur | Studieprogramma's | Studieprogramma's | Wetenschappelijke afdelingen |
| Verantwoordelijke leiding | Studierichtingsleider | Studierichtingsleider | Directeur |
| Betrokkenheid College van Bestuur | Indirect | Indirect | Indirect |
| Instructie aan docenten | Collectief | Individueel | Collectief |
| Professionalisering van docenten | Conferenties en Seminars | Conferenties en Seminars | Conferenties en Seminars |

Organisatorische aspecten van belang bij de invoering van modularisering in de drie instellingen

Tijdens dit onderzoek lag de nadruk op het invoeren van een modulaire leeromgeving. Het is in principe mogelijk om in een modulaire leeromgeving informatie - en telecommunicatie technologie te gebruiken voor talrijke functies gaande van geautomatiseerde toetsen tot ondernemingssimulaties en dienstverlening aan studenten. De transparantie van een modulair curriculum biedt vele mogelijkheden om gebruik te maken van deze toepassingen. Ook hier verdient het aanbeveling om een benadering te ontwikkelen die de invoering zo effectief mogelijk te laten verlopen.

Modulaire curricula bieden extra mogelijkheden voor samenwerking tussen instellingen voor hoger onderwijs in Europa. Het ontwikkelen van gemeenschappelijke modules en programma's maakt het mogelijk kwaliteit te verhogen tegen geringere kosten. Voor een goede gang van zaken is per vakgebied een Europees raamplan nodig alsook een format voor de te ontwikkelen modules. Door deze werkwijze kan elke student in de toekomst deelnemen aan programma's met een internationale dimensie.

Uit deze studie blijkt dat het zoeken naar wegen om de flexibiliteit te vergroten instellingen voor Hoger Beroepsonderwijs doet evolueren naar duale onderwijssystemen. In het duale onderwijssysteem wordt het traditionele onderwijs aangevuld met de sterke punten van het afstandsonderwijs. Op dit ogenblik wordt het duale systeem beschouwd als een pragmatische oplossing voor de uitdagingen van dit ogenblik, maar het zou kunnen zijn dat het duale onderwijs/organisatie model het systeem van de toekomst is.