

Thesis  
3664

# **Teacher Decision Making in Further Education**

**Submitted as part fulfilment for the degree of Doctor of Philosophy**

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~~09/01~~

**To my wife Jean**

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## **Preface**

The purpose of this preface is to provide the contextual background to the study from which to address the questions “Why did the researcher decide to study decision making?” and “How did the researcher reach this decision?” The answers to both questions emerge from the researcher’s experience of life, study and work. Re-tracing his own professional life helped the researcher to bring into awareness the motives for undertaking the study. The trace may also provide for the reader a frame of reference within which to conceptualise and interpret the study. What follows is a brief professional autobiography of the researcher.

Leaving school at age 15 with no formal qualifications, I undertook an apprenticeship as a painter and decorator and acquired a City and Guilds certificate. After two years working as a painter and decorator, I completed a 12 months full time Clerk of Works course and attained, by external examination, membership of the Institute of Clerk of Works of Great Britain.

I took up an appointment as a Clerk of Works working for the Ministry of Defence and was posted to Cyprus. I was one of eight British Clerks of Works, each responsible for a designated geographical area and a workforce consisting of Greek and Turkish Cypriots few of whom spoke English; I had no command of their languages. The customs and practices of building differed from those in the UK. A number of the local populace clearly demonstrated their resentment of what they perceived to be a young, inexperienced foreigner intruding into their domain. What was virtually an untenable position was alleviated by Christaki, a genial multi-lingual Greek Cypriot in his mid-50s who was appointed as my assistant, and with whom I developed a relationship of mutual respect and co-operation. We discussed each stage of every project and shared the workload by mutual agreement. My role focussed mainly on estimating, measuring, contract documentation and budgetary control, while Christaki concentrated on communicating with the work force.

Though Christaki was experienced in the customs and practices of building in Middle Eastern countries, difficulties arose when attempting a literal translation of technical specifications written in English, since there often did not exist precisely corresponding technical terms in Greek or Turkish. These difficulties were overcome by interpreting (rather than translating) the architect's intentions. From a reading of the specifications and technical drawings I produced sketches of how the construction would look on completion; although the means of manufacture and assembly were those practised within the Cypriot culture which relied more on hand crafting than manufacturing processes, the finished product satisfied the architectural and structural requirements.

When reflecting on my experiences of work in Cyprus, I became aware that what I had been taught during my formal training about construction theory and practice had been informed only by the prevalent culture of the British construction industry in which assumptions are made that manufactured materials and construction machinery are readily available and that all those working within the industry have the requisite knowledge and understanding of contract documentation, bills of quantities, technical drawings, legislation and codes of practice. There is also an assumption that there will be available a skilled and experienced pool of operatives, together with a wide range of specialists whose advice and services can be called upon when required. The teaching of the theory and practice of construction within a British culture also takes for granted the existence of an infrastructure of roads and railways, together with national electricity grid, water mains, and sewerage systems. In Cyprus many of these assumptions proved to be false and it was necessary to read situations in ways not taught in my courses of training in the UK: I had to adjust to this new environment.

With regard to dealing with technical problems these adjustments were not too difficult to make; in spite of limitations on availability of resources and lack of mechanical equipment, the fundamental principles of construction are universal and have remained substantially unchanged throughout history. To resolve construction problems, therefore, required adherence to basic principles and an awareness of the customs and practice of the local culture. In this way, the ends prescribed by the architect or civil engineer could

accordingly be attained, though the means had to be context related and modified.

What I concluded from this experience was that the British way of building is not the only way, nor is it always the most effective and efficient. From my stay in Cyprus I learned a great deal about theory and practice of building but became aware also of how much more there was to learn. I concluded that technical problems are almost always soluble within the limits of resources available, but that problems related to people are infinitely more complex and difficult to resolve: human situations and conditions are not “given” in the same way as the position of a keystone in an arch - individuals are free to make their own interpretations. Not all of these thoughts were clearly formulated by the end of my stay in Cyprus but with the benefit of hindsight much of what I experienced during this period became more fully understood.

From Cyprus I moved to West Germany, where I found construction practice to be very similar to that in the United Kingdom, in that there existed a highly developed infrastructure within the country and the industry; there were many corresponding technical terms, while the use of common symbols as signifiers made technical drawings, English or German, readily understood. Some difficulties were experienced, however, when it became necessary to integrate UK manufactured goods made to imperial measurements with a design scheme based on metrication.

In Germany I enrolled in an international correspondence course to study for the UK Institute of Building examinations, but was disappointed with the lack of quality of the distance learning material. Having submitted a planning exercise on which I had spent more than 20 hours of work, I received a formative assessment form on which was written “74% - good effort.” This experience as a student of distance learning, was a valuable learning experience with regard to pedagogical methods which I found useful in my later career.

My next appointment was in the Federation of Malaysia. The legislative and executive



branches of the State government were dominated by Malay nationals. Legislation established Malay as the national language to be used in the legislative and judicial systems and in all public administration and education. The short term effect was to bias public appointments in favour of Malay nationals and to disqualify experienced and competent non-Malay nationals from holding top executive and administrative posts.

Many British expatriates were retained on re-negotiated contracts (often with enhanced conditions) as assistants, or advisors, to Malay appointees. Such discrimination was not welcomed by non-Malays and was evidenced by the secession of Singapore, under the leadership of their Chinese president, from the Federation. Though predominantly Chinese, the Singapore legislation appeared far less discriminatory than that of Malaysia: education was conducted in Chinese, Malay and English, while for pragmatic reasons much trade and commerce was conducted in English.

Beyond discriminatory legislation as such, many of what may be described by sociologists as discriminatory practices could be accounted for as the practice of preference in the maintenance of personal comfort zones. For example, in a multi-lingual society, those who are monolingual will tend to live, work and associate with those who share the same language. In the UK the discourse on racial discrimination is conducted on a national/political level and tends to be presented largely as white versus black, with white in the role of persecutor and black in the role of victim; when seen outwith the context of the United Kingdom, the model of white versus black becomes inappropriate.

The issues related to racial discrimination are complex and often very emotive. From my experiences in Cyprus, Germany, Malaysia and Singapore, it seems to me that a way forward in understanding inter-cultural relationships may be found by adopting a post-modernist perspective, by re-visiting and re-reading the texts of these situations. In so doing, it is necessary to recognise that all cultures are biased in their readings of their own histories. At the macro level of analysis, evidence can be found of discriminatory practices being reciprocated between all categories (e.g.racial, religious, political,). Conflicting views and practices can be evidenced not only at the macro level but at the

micro level of individuals: prejudice and discrimination is practised not only between groups but within them. I am not here condoning such prejudicial practices, rather I wish to emphasise how deeply-rooted they are in the individual psyche and to suggest the successful development of different value system is likely to involve a lengthy process of normative re-education rather than a “quick fix” approach based on legislation and coercive strategies. The removal of prejudice and discriminatory practices is more likely to be achieved if mutual respect and understanding can be developed in the individual *via* the study of hermeneutics with a post-modern perspective.

My next appointment was in the South of England, where I attended the local F.E. college for one day and three evening sessions per week, attaining in due course an HNC in Building together with supplementary passes in Law and Economics.

Working outwith the United Kingdom provided a context in which to embed my experience of the HNC curriculum. This context provided a deeper level of understanding than I was able to apply during my earlier technical education, much of which related to situations of which I had no experience. The HNC course also provided opportunities to meet and discuss working experiences with my teachers and other students.

After a second tour of duty in West Germany, I returned to the South of England to take up a full-time teaching post with the Ministry of Defence. The curriculum covered a wide range of construction topics, including design, estimating, tendering, contract law, planning, budgetary procedures and techniques, field surveying, quantity surveying and provision of services. The student groups were highly motivated, intelligent and had a minimum of four years training and experience in at least one of the major elements of the curriculum: in many lessons, some students were better informed about the content than the teacher. Part of the challenge as a teacher in such situations was to harness the diverse knowledge and experience of the students for the benefit of all.

During the first two years in this post, I attended an F.E. college on a day release basis

and through external examination attained membership of the Chartered Institute of Building (CIOB). In addition to technical studies, the CIOB course encompasses aspects of management and leadership, group dynamics and inter-personal communications. This course confirmed views which I had developed from my earlier experiences, for example that a positivist perspective provides an appropriate paradigm for the study of technology, but that where humans are the subject of study, the number of variables which affect thinking and behaviour are too numerous and too complex to be described in terms of simple cause and effect: even their own thoughts and behaviours can often be beyond their comprehension.

It was for these reasons that I moved my focus of study from technological subjects towards studies within the field of the humanities. This interest led me to enrol for a course of studies leading to the Diploma in Management Studies, the curriculum of which included manufacturing production and control, aspects of marketing and selling, sociological and psychological aspects of the workplace, theories of management and leadership, accountancy, economics, and statistics.

The organisational expectation was that after four and a half years in the full-time teaching post, I would move back into the supervision and management of construction projects. Compared to the excitement, challenge and interest which I had experienced in this post, both as teacher and student, the prospect did not seem very appealing to me and I decided to change the direction of my career. I was successful in being awarded sponsorship by the Ministry of Defence to attend a one year full time Further Education teacher training course in a college in the north of England, where I joined a cohort of adult students half of whom were in-service F.E. teachers and half pre-service trainees from industry and commerce.

Part of the course requirement was to spend two sessions, each of ten weeks, at practice in teaching in a Further Education establishment during which time students would be visited and assessed. Because it was considered impracticable and uneconomic for tutors to visit me in my original teaching establishment in the South of England, I was assigned

to two colleges within the Greater Manchester area. Anticipating that this might be the case I had equipped myself with a copy of all of my teaching notes, handout materials, assessment instruments and other classroom resources: I considered it wise to be as well prepared as possible for any teaching task I might be set during the two placements.

As all my formal education had previously been part time, being a full time student for a year, seemed to be a luxury: able to focus on learning without any distractions, the course provided an interesting and secure foundation within which to embed my experiences to date. However what remains in my memory more vividly than any of the teaching sessions in college, were the contrasting experiences I had in my two attachments to F.E. colleges.

My first teaching attachment was to a college in the centre of Manchester which specialised in building construction where for the whole of the period I was supported and encouraged by every member of the teaching and support staff. The Head of Department invited me to negotiate a teaching programme in which I was offered a variety of subjects and student groups to teach, working closely with each of the teachers whose classes I would take. The teachers were, without exception, keen to offer support materials and advice, and by the end of the ten-week period I had formed the opinion that this college displayed an ethos of genuine support and co-operation which involved every member of staff and every student. As I left the college on the last day of my attachment my uppermost thought was "This college is a joy in which to work."

My second attachment was to a college some six miles from the centre of Manchester. As I entered the construction department on the first day, I perceived the whole establishment to be enveloped in an atmosphere of tension and despondency, and this first impression was only reinforced throughout the ten weeks I stayed there. The contrast with the earlier college could not have been more extreme: on first meeting the Head of Department, I was handed a programme of lessons to teach, which I recognised from my experience consisted of all of the course content which was inherently boring and therefore difficult to teach. I was not unduly concerned about the programme: I had

in my prior teaching post, developed a number of strategies designed not only to promote and encourage but to create interest through the engagement of teacher and students in a range of interactive activities. Although the prospect of teaching these subjects was not daunting, it did occur to me that since I might have had no teaching experience, for the Head of Department to issue such a list of topics was extremely insensitive and unsympathetic in the circumstances.

This first encounter was but one of many incidents which reinforced my first impression upon entering the department and highlighted the contrast in the culture of this department and the College of Building which I had previously attended on teaching practice. On entering the staff room I was greeted with complete indifference by the small groups of teachers huddled round tables drinking tea or coffee, and speaking in quiet voices. As I moved towards the coffee bar the snatches of conversation which I picked up all seemed to concern the inadequacy of the impending changes to the pay structure of teaching staff.

The doors to all classrooms which were not occupied were required to be locked at all times and I was informed that, as a non-permanent member of staff I was not entitled to keys. Before each class I had to find a member of the permanent teaching staff, janitor or cleaner in order to gain access to the classroom. A final anecdote may help to explain why I found this attachment humiliating, degrading and demoralising. Having gained access to the first classroom in which I was to teach, I discovered that there was no chalk; I made my way quickly to the staff work room and enquired as to where I might obtain some. One of the teachers explained that, at the beginning of each term, teachers were issued with a box of chalk of which they kept personal possession and took with them to their classrooms. I explained that I had arrived in the department only the previous day, that students were already arriving in the room: my need to have a piece of chalk was immediate. Only after repeated explanation by me of the situation in which I found myself, did a lecturer reach into his desk drawer, withdraw a box of chalk, extract a stick of chalk, break it in half, return one half to the drawer and offer me the remaining half saying "I'll lend you this piece."

I quietly thanked him and returned to my classroom. I remember feeling bewildered and amazed.

Members of staff seemed to operate in isolation: each had a cupboard in which were stored “personal” teaching resources and stationery: they appeared to take pride in their ability to operate independently. I did not enjoy my ten weeks in this department, but because of my prior teaching experience and the prepared resources which I had brought with me, I was able to fulfil my teaching commitments without undue difficulties. Reflecting on the experience, I wondered how well I might have coped had this been my first experience as a pre-service teacher trainee.

Having successfully completed my teacher training course, I took up a teaching post with the Ministry of Defence located in East Anglia. This was a small establishment consisting of three members of staff between whom were shared all administrative and teaching duties, and offering short courses focusing on literacy, numeracy, social studies, supervisory and management studies. The students were all employed adults within the 20-35 year old age group.

A pedagogical challenge for which I was ill prepared arose in the process of teaching book-keeping and elementary accounting to adult students whose numeracy skills were often limited to simple addition and subtraction of whole numbers. I was capable of demonstrating the requisite arithmetical skills required on the course but I experienced difficulty in teaching the students how to acquire these skills. On reflection, I concluded that my own arithmetical skills relied much more on practice than on any deep theoretical understanding.

I acquired from the National Extension College two “Teach Yourself” books entitled ‘Mathematics Square One’ and ‘Mathematics Square Two’. From these I acquired an understanding of the rudimentary principles upon which mathematics is founded: for the first time I began to understand procedures which I had been taught by rote-learning in my earliest years of education.

Both books were extremely well-designed and presented: the material they contained formed the basis for the development of a programme of remediation for my students, all of whom successfully completed their course of study. On reflection, I considered this experience, both as a learner and a teacher among the most satisfying experiences in my professional career.

This period of experience as a trained teacher provided a further stimulus to my personal educational development. I subsequently completed a BA degree course with the Open University, from which I gained not only an understanding of the subject matter of the curriculum, but also valuable insights into the design and structure of student distance-learning material, and the organisation and administration of student support, in which modes of delivery the O.U. has long been in the forefront.

After some four years in East Anglia I moved to Lancashire to take up a similar appointment and continued my part-time education by enrolling at U.M.I.S.T. for an M Sc in Management Education and Organisational Development. As my contract in Lancashire neared completion, I applied for and obtained a post as a teacher trainer with the Scottish School of Further Education at Jordanhill College of Education in Glasgow prior to its amalgamation in 1993 into the University of Strathclyde as its Faculty of Education. The post offered me the opportunity to combine all of my experience and formal education with my increasing interest and fascination with the complex phenomena of teaching and learning, and to spend the rest of my professional career interacting and sharing with a wide range of experienced and expert teaching practitioners.

At the time of taking up my post as lecturer, the Scottish School of Further Education was a monopoly provider of teacher education courses (leading to the award of Teaching Qualification in Further Education) to a system of about 50 colleges of FE in Scotland, all resourced and provided with support services by the local/regional authorities. Colleges sent their teacher employees to the TQFE course on an in-service basis, and provided quite generously in terms of subventions for fees, travel, accommodation and

also of remission from teaching duties. Most of the courses provided by our lecturer/clients in their own colleges were described and assessed in a conventional norm-referenced format.

In the years that followed, preceding and including the period during which the study which follows this preface was carried out, many of these arrangements were subject to fairly rapid and radical change, largely driven by developments in Government education and fiscal policy. For example, many courses delivered in the FE system became criterion-referenced within modular structures, starting with the National Certificate system and later followed by Higher National units; the TQFE course itself was reviewed and re-written in criterion-referenced and modular fashion - a process of curriculum development in which, necessarily, I was involved; and legislation followed to incorporate the FE colleges, independent and free from local authority and support.

As a result, the cohort of FE teachers from which the subjects of this study were to be drawn were subject to processes of rapid and drastic change, involving great demands upon their decision making both in classroom teaching and learning situations and their relationships with managers and employers. Parallel situations existed, of course, for college managements structures, administrators and for the staff of the Scottish School. The stated and desired outcome of the TQFE course - reflective practitioners - needed to demonstrate this quality in times of change and stress.

The changes in the SSFE were compounded by its amalgamation into the University of Strathclyde as a department within the newly-acquired Faculty of Education - the former Jordanhill College of Education; this clearly included modification of lecturers' patterns of activity as between teaching and tutorial duties on the one hand, and research activities on the other.

The changes in the planned pattern of activities of teaching staff within the SSFE, resulting from the review and modification of the structure and mode of delivery of the mainstream TQFE course and from accommodation to the altered balance of allocation of



time and effort between teaching and research prompted me to seek out an area of inquiry in which the years of learning and experience as a student and as a teacher and trainer, described above, would be relevant and useful.

The decision to focus upon decision making followed from reflection upon my own training, education, work and teaching experiences, which had cumulatively and increasingly convinced me of the importance of decision making across many aspects of life; in work; in management; in training; and in teaching and learning situations. Many technical, managerial and education-focussed courses which I had completed did not address the nature of the concept of decision (nor of the process of decision making) explicitly even where clearly intended, if only indirectly, or tangentially, to enhance the understanding and quality of implementation of decision making.

As a result, however, of an interest in those theories and models of decision making encountered through the experience of such courses, and of my present role as a practitioner-educator, I inspected recent and current curricula related to teacher-training for explicit reference to aspects of decision making. It is clear that such curricula, when referring directly or indirectly to decisions and the decision making process, still largely conform to the models and prescriptions typical of courses in technical and managerial training with all their perceived inherent limitations in terms of exclusive focus upon logical processes of problem-solving applied to a limited range of relevant contexts. None of the curricula surveyed demanded an exploration of the nature of decisions and decision making in the complex, inter-personal human relationships involved in teaching and learning.

Decision making was presented in management courses in the form of “problem solving” and took the form of prescriptions which would address problems related to technical specifications, planning of work sequences, scheduling of resources, and to managerial problems of forecasting, planning, organising, coordinating and motivating staff, controlling operations and procedures, delegation and communication. Educational courses have conventionally approached decision making in a similar fashion, since there

is a perceived correspondence between the functions of managers and teachers: both are involved in addressing a similar range of activities, with their related problems. The prescriptions of models of decision making in both cases tend to be based upon rational analysis, operationalised in a logical sequence of actions.

These prescriptions, models and procedures can be shown to be effective in a limited range of specific situations and circumstances; in practice they are likely to be more reliable when dealing with inanimate entities than with people, either as individuals or in groups.

It appeared to me therefore, to be desirable to include in the curriculum of F.E. teacher training an explanation of the nature of decision making and a model of decision making relevant to teachers making practical decisions in their professional lives. A review of relevant literature failed to identify appropriate explanations or models, while identifying an absence of research studies grounded in a Further Educational context.

It is hoped that this preface has served to identify the researcher's interest and motivation to undertake the present study and may help the reader to understand the background of the researcher and to engage with the text.

## **Abstract**

Teachers' decision making is a crucial element in the quality of delivery of teaching and learning and, therefore, of educational outcomes in the form of student performance. There is, however, a dearth of relevant studies in this area, especially in the F.E. sector. This study sets out to investigate the practice of teachers' decision making in the substantive context of the Further Education sector in Scotland.

The investigation adopted two main approaches: firstly, an interpretive approach, in which qualitative and quantitative methods were combined to collect and analyse data by the protocols of individual interviews, case studies and questionnaires: secondly, a developmental approach involved the application throughout of constant comparative analysis, in the tradition of "grounded theory".

The population of the study, the source of both qualitative and quantitative data, was made up of 145 practitioner- subjects, drawn from a range of subject specialisms and approximately evenly split in terms of gender.

The qualitative data, when statistically analysed, permitted comparisons of the responses of the subjects to be made in terms of major subject specialisms in their teaching, and also in terms of gender.

The major conceptual and theoretical outcome is a descriptive model of the practice of teachers' decision making, developed on the basis of subsidiary outcomes: a new, operational definition of decision; an innovative typology of decisions; an original way of categorising decisions by their content or substance. The developed versions of these outcomes constitute the major findings of the research.

Recommendations include: potential applications of the outcomes of the study; possible research routes to further development of the conceptual findings presented.

The boundaries and limitations of the study are also described and discussed.

## **SECTION 1**

## **INTRODUCTION**

### **(i) Brief Background and Rationale**

As explained in greater detail in the autobiographical preface, this study emerged from the researcher's professional interest in teacher decision making and a changing institutional culture in his own workplace. This included the opportunities provided by a changing balance of work demands : research was given relatively more emphasis and more time made available for this activity. At the same time, the researcher continued in his tutorial role which provided ongoing contacts with these institutions and practitioners in the Scottish Further Education sector relevant to the proposed study of decisions and decision making by teachers in the course of their professional duties.

These changes allowed the researcher to exploit the opportunities outlined above. His career had consisted of a range of progressive employment changes (from apprentice to craftsman, Clerk of Works, Building Project Manager, trainer, teacher, to teacher trainer and educator) paralleled by personal development through training and education (from apprenticeship, Institute courses and memberships, further and higher education resulting in Bachelor's and Master's degrees). These educational initiatives and developments were both prompted by and stimulated the career changes.

The development from technical to managerial to educational study and practice demonstrated and promoted an interest in the complexity of human activities and cultures whether within or between institutions in the UK or in the other countries in which the researcher worked. Some common threads running through these experiences at home and abroad were, for example, language, culture, institutional ethos and practice, human relations, differences in technical practice. All of these involved the practitioner, the student and his teachers in decision making.

Therefore, the answer to the question as to why the researcher focused the study upon decision making emerges from the questions which arose in his mind as a result of these work and study experiences and the tentative conclusions that were drawn. These

**prompted an initial search for accessible and relevant studies in the field of decision making which could be applied in the context of Scottish F.E. teaching. The futility of the search drove the study into areas which resulted in its final format. The researcher, of course, perceived himself as a decision maker not only in respect of his teaching but also of his prospective research activities.**

**However, how he himself took decisions shaping the nature of the study could only be seen retrospectively from the perspective of the completed research experience.**

**Based upon the researcher's experience summarised above, given in detail in the preface, and upon initial review of the literature relating to decision making in teaching contexts, the following broad conclusions seemed to be justified:**

- \* the researcher's own training, education, experience and practice increasingly convinced him of the importance of decision making in life, in work, in management, in training and in "teaching and learning";**
- \* courses, curricula and course documents, both in the past and currently, have paid insufficient explicit attention to decision making to make a coherent and useful contribution to teachers' thinking and practice ;**
- \* it would be worthwhile reviewing existing literature on decision making more widely and deeply to discover the extent to which findings could be useful in planning the subject matter, objectives and methodology of a research topic.**

**In addition, the following background aspects of current practice and the current state of research provided a motivation to plan a study using the researcher's background and present occupation :**

- \* the existing literature does not sufficiently treat decision making in the context of teaching and learning in Scottish Further and Higher Education;**

- \* the existing literature does, however, provide some stimulus (by way of ideas and conclusions) to further research;
- \* recent developments in the nature of the work and working conditions of Scottish F.E. teachers make increasing demands upon their decision making abilities.

Given the attractiveness and apparent feasibility of the project, the researcher had the following resources at his disposal upon which to base his research :

- \* the time and encouragement towards research activity provided by his University employers ;
- \* his own career experience, especially recent and continuing experience of working with Scottish F.E. teachers in a tutorial role and context ;
- \* the F.E. teachers themselves in their role of reflective practitioners and students on a course of teacher education ;
- \* the fruits of background reading upon educational matters and more recent review of decision making literature in educational and other contexts.

## **(ii) Overview of the Study (Intention, Design and Methodology)**

The background information, tentative questions and conclusions and resources available outlined in the previous sub-section explain the researcher's motivation to pursue a study focused upon the issue of decision making in the particular context of teaching within the Further Education sector of education in Scotland. The intention of the study can therefore be summarised as:

**to develop an understanding of the substance and process of decision making by teachers in their professional lives.**

Early in the research it became clear that a precise and workable definition of the concept “decision” was needed. The definition, adopted for the purpose of the study, is stated below (see page 5).

The substance of teachers’ decision making is understood to connote the content of this activity -- what they make decisions about; this can be expressed in terms of organising categories of decision. The process of decision making constitutes the means by which decisions are made -- how teachers make their decisions; this can be regarded as the ways in which decisions are treated, these ways being categorised as decision types.

Given the basic requirements of an operational definition of decision, the general intention as summarised above could be approached via the proposition of the central research question, which encapsulates the substance and process of decision making and can be stated in the following terms:

**Can a consistent and useful descriptive model of teachers’ decision making be constructed?**

If this question can be successfully addressed and the intention of the study fulfilled, beneficial outcomes might result in the context of the training for the practice of teaching in the F.E. sector: decision making could be built into the curricula of courses of professional education in more constructive and meaningful ways. Consequently, for example, the quality of the implementation and evaluation of plans for teaching and learning by reflective practitioners might be enhanced.

The study, an outline of which follows, was designed to address and, where possible, provide answers to the central research question and the subsidiary question, relating to the substance and process of teachers’ decision making which arise from it.

The general strategy of the research study was in the tradition of “grounded theory” i.e. to generate new theoretical concepts on the basis of existing knowledge and of the analysis of fresh empirical data, from the Further Education Sector in Scotland.

## **General Approach**

The general approach taken in the study was guided by the principles of “grounded theory” as developed by Glaser and Strauss (1967) and elaborated in the works of Glaser (1978), Strauss (1987), Charmaz (1983, 1990), Corbin and Strauss (1990), Strauss and Corbin (1990), Fujimura (1991), Gerson (1991), and Vaughan (1992).

Grounded theory focuses upon the development of new theory, in preference to many other social science methodologies which tend to focus upon verification of existing theory. The major tenets of grounded theory are that the research should be inductive, and that the theory should be allowed to “evolve” through “.....a general method of constant comparative analysis” (Glaser and Strauss 1967 p. vii). Such an approach is well suited to the intentions of the present study, in which received concepts, definitions, and models, based upon existing research findings within the literature related to decision making were subjected to “theoretical elaboration” (see Vaughan 1992) in pursuit of an operational definition of decision. It is also suited to the interpretive analysis of the perspectives and voices of teachers related to their professional lives used within the study, and for which of course the researcher must accept responsibility.

Grounded theory, involving as it does “constant comparative analysis” results in a continuous inter-play between systematic collection and analysis of data. Throughout the progress of the study each new concept which evolves is compared and tested against earlier interpretations of data and is subjected to verification in later stages. The development of theory therefore might better be described as a cyclical rather than a linear process, though of necessity the presentation of the study takes a linear form.

Set out below is a skeleton outline of the major elements of the study, which illustrates the sequence and timing of data collection, and the major initial conceptual contribution of each of the elements of the study.

**1992 Jan.    Review and analysis of literary sources**

**(i)        Inform rationale and design of the study. (Sects. 1 and 6)**



- (ii) Locate study within the context of research on teaching.(Sect. 2)
- (iii) Identify distinguishing features of F.E.education. (Sect. 3)
- (iv) Develop an operational definition of decision. (Sect. 4)
- (v) Evaluate research studies on teachers' decision making.(Sect. 5)
- (vi) Formulate and adopt a tentative operational definition of decision and test against the literature investigated above.

**1994 Jan. Collect and analyse initial interview data. (Phase I).**

- (i) Identify teachers' organising categories related to their perceptions and interpretations of aspects of their professional lives.(Sect. 7)
- (ii) Develop tentative typology of decisions.(Sect. 7)

**1994 Mar. Collect and analyse Survey questionnaire data. (Phase II).**

- (i) Confirm saturation of organising categories. (Sect. 9)

**1995 Feb. Collect and analyse lesson planning data. ( Phase III)**

- (i) Test and extend organising categories. (Sect. 10)
- (ii) Test and extend typology of decisions. (Sect. 10)

**Collect and analyse lesson review data. ( Phase III)**

- (i) Test and confirm saturation of organising categories (Sect. 11)
- (ii) Test and extent typology of decisions.(Sect. 11)

**1996 Jan. Further Analysis and Theory Development**

- (i) Present normative descriptions of teachers' decisions related to their professional lives. (Sect. 9)
- (ii) Test significant differences of response rates of groups of teachers differentiated by subject specialisms and gender. (Sect. 9)
- (iii) Analyse relationships between decisions. (Sect 10)
- (iv) Develop matrix of decisions. (Sect. 10)
- (v) Develop Internal Context diagrams for each teacher. (Sect. 10)
- (vi) Develop theoretical Internal Context of F.E. teachers. (Sect. 10)
- (vii) Refine theoretical concepts developed during the study and develop the Practitioner Model of Decision Making. (All Sects.)

**1997 Mar. Review and writing up of the study.**

All of the data and concepts developed during the study were subjected to review and

continuation of comparative analysis between concepts generated during the study and current developments reported in the literature.

### **Phases of data collection**

What follows below is an expansion of the skeleton outline presented above, and is intended to build upon the skeleton by providing descriptions of the phases of data collection and the protocols employed in each phase.

#### **Phase I**

This formed the original basis of the study, in terms of data collection. The initial Phase I subjects were members of a sub-group in a tutorial relationship with the researcher, who participated with him in a series of semi-structured interviews. Following the tradition of “grounded theory”, additional data were collected, by supplementing the group, in order to broaden its generalisability and to ensure “saturation” of categories from a more representative group of practitioners. The initial group consisted of 9 respondents, and was later supplemented by 15 further respondents.

The processing of the data was carried out by:

- \* audio-tape recording of all interviews:
- \* transcription of all recorded interviews:
- \* content analysis of transcripts following the procedures employed by Lofland and Lofland (1984), leading to content categorisation of teachers’ statements.

Review of the above process demonstrated the feasibility of developing a novel typology of teachers’ decisions as revealed in their interview statements. A tentative typology was drawn up, which was tested and re-tested throughout the later stages of the study.

## **Phase II**

The population for this phase was the entire group referred to above, a total of 145 valid responders.

Using the list of content categories derived in Phase I, statements were drawn up with which respondents were invited to indicate degrees of agreement or disagreement. In addition, for each **category** of statements, open-ended responses were elicited to questions posed.

The processing of the data was carried out by computer analysis of responses to show:

- \* response rates to each of the categories/questions;
- \* response rates in relation to respondents' subject specialisms (4 broad specialism types);
- \* response rates in relation to respondents' gender.

The statistical test of Chi squared was applied to the output data from groups, categorised by both subject specialisms and gender. The data emerging from the responses to the open questions was used to test the degree of saturation within each category.

The typology of decisions established at the end of Phase I was able to be checked in the light of Phase II data. As a result, the typology already established were confirmed, no important different types were discovered.

## **Phase III**

The respondent population for Phase III of the study was made up of the original 9 members of the researcher's tutor-group (see Phase I).

Each of the nine respondents formed the basis of a case study in which:

- \* a teaching and learning situation was planned, prepared and delivered by the respondent;
- \* each respondent entered into a dialogue with the researcher/interviewer prior to the delivery of the lesson;
- \* each respondent was observed during the entire delivery of the lesson;
- \* each respondent entered into a dialogue with the researcher in the aftermath of the lesson.

Pre-lesson and post-lesson dialogues, and the process of the lessons themselves were video/audio recorded in 8 out of 9 cases. The dialogues were then transcribed.

The processing of data in Phase III was carried out in several stages:

Stages 1, 2 and 3 were concerned with the teachers' decisions related to preparation for and planning of lessons.

Stage 4 was concerned with the teachers' reviews of their lessons, in response to the question "How well do you think the sessions went?" Their responses, clearly, could include both description and evaluation.

Stage 1 - a comparative analysis of 9 cases. This analysis yielded new types of decisions, in addition to comparing the incidence of already identified decision types.

Stage 2 - analysis of the internal relationships of decisions within each of the 9 cases using the extended typology derived in Stage 1. These relationships were able to be expressed in diagrammatic format as well as in narrative.

**Stage 3 - a summary of the inter-relationships between decisions exhibited in all 9 case studies was made. This was presented in matrix-diagram formats.**

**Stage 4 - a comparative analysis was carried out of all 9 teachers' responses in relation to the description and evaluation of their lessons.**

**Throughout and at the end of the 3 phases of data collection and analysis just described, an ongoing review of decision-related statements was carried out using the constant comparative method in order to make possible the detection of any new types of decision by comparison with the list of types of decisions already established at those points in the progress of the study.**

## **SECTION 2 LOCATING DECISION MAKING WITHIN EDUCATIONAL RESEARCH**

### **(i) Brief Background and Rationale**

The purpose of this review is to establish the research context in which the present study was conducted.

Programmes of research on teaching may be categorised according to the major variables upon which they focus for the purpose of data collection and analysis. The earliest studies focused upon behavioural variables. Subsequent studies focused upon variables in individuals' cognitions and later upon cultural and social variables. All of these programmes have attracted a substantial number of devotees, many of whom are currently engaged in research. As a programme of research, the study of teacher decision making is the latest to emerge, and in contrast to other well established programmes, may be described at present as in the "prescience" stage of development.

To summarise the major programmes of research on teaching, the behaviouristic programme focuses upon observable behaviour within the classroom. This programme is informed by the belief that "scientific" investigation of teaching and learning should follow the methods of the natural sciences, i.e. observation, measurement of variables, testing of hypotheses through experimentation, with the ultimate goal of prediction and control. The corresponding model of teaching/learning is conventionally described as **Process- Product**.

Cognitivists argue that mental processes mediate between stimulus and response. This programme is informed by the belief that the adoption by teachers of models of thinking and problem solving will enhance students' achievement. The aim of the programme is to develop such models, teach students in their application and test the models by comparative analysis of experimental and control groups. The model of teaching adopted by cognitivists is summarised as **Process-Mediator-Product**.

Those who pursue sociological/cultural programmes of research argue that teaching and learning are social activities, and an understanding of these activities requires an understanding of how individuals make sense of their environment and what meanings they give to social interactions. The aim of this programme is to investigate the relationships of sociological/cultural variables and to explain how these affect teaching and learning. In this programme the model of teaching can be summarised as **Process-Mediator-Social Mediation-Product**.

Within and between these programmes there are many variations in research design and methodologies. Shulman (1986) observes “no contemporary field of applied social science has attracted the range and diversity of disciplinary efforts in the pursuit of its questions as has research on teaching” (p. 33). Shulman does not, however, consider this to be a sign of pathology, rather he suggests that research on teaching is in a state of “admirable vigour and promising progress ....its benefits are manifold for they promise to lead to the deeper theoretical understanding of teaching, a continuing documentation of its many forms and functions, and the likelihood of more enlightened future approaches to the entire teaching enterprise.” (p. 33)

## **(ii) Process-Product (Behaviourist approach )**

Gage (1963) defined research on teaching as “research in which at least one of the variables consists of a behaviour or characteristic of teachers.” (p. 97) The basic tenets of process-product research are described by Anderson, Evertson and Brophy (1979) “.... to define relationships between what teachers do in the classroom (the process of teaching) and what happens to their students (the product of their learning). One product that has received much attention is achievement in the basic skills ..... research in this tradition assumes that greater knowledge of such relationships will lead to improved instruction: once effective instruction is described, then supposedly programmes can be designed to promote those effective practices.” (p. 193)

Typically, researchers in the behaviourist tradition use observation techniques in “natural” classroom settings. Behaviours of teacher and students are categorised, and tallies of

teacher behaviour are correlated with measurements of student achievement. Shulman reports that “variations in teacher behaviour were found to be systematically related to variations in student achievement, a finding that was only possible from a research design relating teaching ‘process’ to student ‘product’.” (p. 10)

The process-product approach to research on teaching has continued to attract adherents because of its successful track record based in applied behaviourist psychology and its task-analytic training tradition in which complex tasks were reduced to a basic set of skills (see Glaser 1962, Gagne 1970). If it was seen to be successful in the training of technicians then why not in the training of teachers? Shulman comments “the metaphor of teaching as a skill, or bundle of skills, developed across variations in settings, was compelling and well understood within the educational research and practice community.” (p. 11)

The implications of this tradition of research for both practice and policy were seen as obvious. The behaviour of teachers which correlated positively with achievement of students could be translated into checklists of prescriptive teaching behaviours. Student achievement could be used by policy makers and lay persons as “indicators” of effective teaching by measuring standardised test scores. Shulman observes “.....the raising of test scores became a goal in itself. Teaching performances that were observable could both be evaluated and serve as the basis for training and staff development. The competency-based teacher education movement flourished energetically for several years and, though on the wane in schools of education, is re-emerging at the State level in programmes for beginning teachers and/or for evaluating teachers for certification tenure or merit increases.” (p. 11)

Investigators, or reviewers, of the process-product programme have synthesised the hundreds of correlational relationships into the style, or composite pattern of teaching that seems to be associated with desirable kinds of pupil achievement and attitude. (Gage 1978 p. 31) Shulman observes “There was little evidence that any observed teacher had ever performed in the classroom congruent with the collective pattern of the composite.” (p. 12)



This observation is supported by the findings of field study experiments (Anderson, Emerson and Brophy 1979; Good, Grouws and Ebmeier 1983) which report that teachers who have been trained using the composite, typically produced higher achievement gains among their students than did those of their control group counterparts. The teachers in the experimental group did not, however, always engage in the “desired” behaviours more frequently than did their counterparts, and not all the trained behaviours continued to correlate with the student achievement criteria in the field experiments. These findings suggest that all of the elements in the composite were not needed for effective performance and, other, as yet unidentified, variables were affecting student achievement.

In summarising these studies, Gage and Giaonnia (1981) demonstrated a relationship and degree of association with performance but left unexplained the “reason” why particular combinations of teacher behaviour led to gains and others did not. So that what appeared to be missing from the process-product research programme was a theoretical explanation of the correlates together with an explanation of higher student achievement of some students in the absence of teachers’ “desired” behaviours.

### **(iii) Process-Mediation-Product (Cognitive approach)**

It was with a change of emphasis to cognitive psychology that the process - product model was amended. Bandura (1970) comments that “a valid criticism of extreme behaviourism is that in a vigorous effort to avoid spurious inner causes, it has neglected determinants of behaviour arising from cognitive functioning.” In response to the behaviourist’s argument that cognitions are inaccessible except through untrustworthy self-reporting (that they are inferences from effects, are epiphenomenal or are simply fictitious) Bandura comments that “because some of the inner causes invoked by theorists over the years have been ill-founded, this does not justify excluding all internal determinants from scientific enquiry.” (p. 10)

Among the earliest studies which attempted to explain the findings of process - product research, was the Beginning Teacher Evaluation Study (Fisher et. al. 1978), which was

guided by Carrall's (1963) model of school learning. This model suggested that student achievement was related to "allocated time" and "task engagement" of students. The findings of this study shifted the emphasis from teacher behaviour as cause to student activity as explanation, and suggested that students needed time to absorb information and convert information into "meanings" for them.

Information processing models from cognitive psychology were used to address the question "What sense do students make of different forms of instruction?" Rowe's (1974) work on wait-time took on renewed significance so that the process-product model was amended to one of **Process-Mediator-Product** .

In the 1950's and 60's, cognitive psychology programmes in the USA were using computer simulations to produce descriptions of the mental processes involved in problem solving, whilst in Russia, research programmes led by Landa (1974,1976) were directed at producing descriptions of mental processes from which instructional prescriptions could be derived. Landa reported student achievement gains of students who were taught mental operations and procedures which aided their concept structures and problem solving ability, compared to the control group.

Researchers in the cognitive psychology tradition focused on the role of the learner as an active participant in the teaching/learning act. Weinstein and Mayer (1986) note "in particular this view suggests that the effect of teaching depends partly on what the learner knows, such as the learner's prior knowledge, and what the learner thinks about during learning, such as the learner's active cognitive processes." (p. 315)

Cognitive psychologists are concerned to explain how individuals build "structures of concepts", "store" information, "short term" and "long term" memory. "assimilate" new information into "schemata" and approach "problem solving" through the use of metaphors, similes and algorithms. Such theorists build models of cognitive processes adopting approaches similar to those of systems theory (a pattern of input-process-output) and use metaphors such as "library" or "Computer" to describe how the mind encodes, stores, and retrieves information. Within research on teaching their focus is on

teaching students how to think and solve problems. This approach is summarised by Norman (1980) :

**“It is strange that we expect students to learn yet seldom teach them about learning, we expect students to solve problems yet seldom teach them about problem solving, and similarly we sometimes require students to remember a considerable body of material yet seldom teach them the art of memory. It is time that we made up this lack, time that we developed the applied disciplines of learning and problem solving and memory. We need to develop the general principles of how to learn, how to remember, how to solve problems and then to develop applied courses and then to establish the place of these methods in an academic curriculum.” (p. 97)**

The evidence to support cognitive models is based mainly on analysis of quantitative experimental data. An experimental group is selected and taught the appropriate memorising or problem solving technique. A standard task of retrieval from memory or solving a specified problem is administered to this group and a control group, and the results compared. The research findings of such experiments report that the experimental group consistently outperformed the control group. It is these recurring findings which give the cognitive research programme its credibility.

Cognitive psychology has expanded our understanding of the teaching and learning process by moving the emphasis of research from the pursuit of models built upon observations of responses to external stimuli to a focus on the learners' mental processes. The question for teachers now becomes not “How do I manipulate stimuli to create desirable responses from my students?” but rather “How do I encourage students' learning through their own mental processes?”

In addressing this latter question, cognitive psychologists have developed a range of learning theories in which the learner is seen as pro-active and an “agent” in the learning process ( Soden 1993, 1994, 1999; Boekaerts 1995) The teacher now becomes a “facilitator” of students' learning and the emphasis moves from teacher-centred

approaches focusing relatively more attention upon instruction, to student-centred approaches more concerned with learning.

#### **(iv) Process-Mediation-Social Mediation-Product (Social and Cultural Approach )**

In addition to intellectual mediation, proposed by cognitive psychologists, researchers in the traditions of anthropology and sociology have focused attention also upon the cultural and social environment in which teaching and learning take place.

In this tradition, individual participants are seen as contributing to the social environment of the classroom. The focal point for enquiry is the “meanings” individuals ascribe to the actions of themselves and others.

Research into the organisation and management of classrooms has expanded since the 1970's. Doyle (1986) suggests three factors which may account for this upsurge, particularly in the USA. “ A concern for school discipline as racial integration became an important public issue; researchers in teacher effectiveness (e.g. Anderson, Evertson and Brophy (1979), Brophy and Evertson (1976), Good and Grouws (1975) began to include classroom management categories in their coding systems; an increase in the number of qualitative studies of classroom life following the work of Jackson (1968) and Smith and Geoffrey (1968).” (p. 393)

These qualitative studies provided rich descriptions of the complexity of social arrangements in classrooms and have provided a rich source of knowledge about the substance of teachers' thinking and decision making. Erickson (1986) argues that the logical enquiry in this programme of research is from the concrete particular to the universal. The aim is to develop as full a model as possible of the situation and context in which the situation is nested. From analysis of concrete cases and examination of commonalities, generalisations are sought and tested.

Studies of social interaction exemplified in the work of Argyle (1957,1969) and

symbolic interactionism (Hargreaves 1967,1975) illustrate the advances made in our understanding by taking account not only of behaviour and mental processes but also the interactive nature of individual development and the social context of interactions. The implications of the symbolic interactionist position have been expressed by Shibutani (1961).

“From this standpoint, behaviour is not regarded merely as a response to environmental stimuli, and expression of inner organic needs, nor a manifestation of cultural patterns. The importance of sensory cues, organic drives, and culture is certainly recognised, but the direction taken by a person’s conduct is seen as something that is constructed in the reciprocal give and take of interdependent men who are adjusting to one another. Furthermore, a man’s personality - those distinctive behaviour patterns that characterise a given individual - is regarded as developing and being reaffirmed from day to day in his interaction with his associates. Finally, the culture of a group is not viewed as something external; that is imposed upon people, but as consisting of models of appropriate conduct that emerge in communication and are continually reinforced as people jointly come to terms with life conditions. If the motivation of behaviour, the formation of personality, and the evolution of group structure all occur in social interaction, it follows logically that attention should be focused upon the interchanges that go on among human beings as they come into contact with one another..” (in Hargreaves 1975, p. 11)

This focus on interchanges that go on among human beings helps to contextualise the teaching and learning process, and helps teachers to recognise that students, and indeed they themselves, are not “mechanisms” responding to stimuli, nor “mental machines” storing and processing information, but are individuals with personalities, emotions, and desires. In a word, both teachers and students are “human” and share common though not identical sets of characteristics.

The major tenets of symbolic interactionism are reflected in the works of clinical psychologists and psychiatrists whose theories and models derive more specifically from

case studies of individual and group psycho-therapy. The work of Eric Berne (1957,1961,1963,1964,1966,1975) which gave rise to the development of the school of “Transactional Analysis” provides an example of the integrated nature of personality development and social interactions. This work can be seen as complementary to studies of social interactionists. (For a concise overview of the theory of Transactional Analysis and a glossary of terminology, see Stewart and Joines 1987).

A key conclusion of both social/cultural and transactional analysis viewpoints is that interpersonal communications are interactive. Although one may influence the other by his/her actions (verbal or non-verbal), neither can determine (or cause) a particular response from the other. (Scott and Usher 1996, Rainwater 1981). Although one may anticipate an expected response, everyday experiences remind us that such anticipations may be erroneous and may, indeed, surprise us.

#### **(v) Teachers’ Decisions-Process-Mediation-Social Mediation -Product (Individual, Social Behavioural, Cognitive and Cultural Approach)**

Jackson (1968) made an important contribution to understanding the complexity of the teaching situation by directing the attention of researchers towards the importance of describing the thinking and planning of teachers, while Bjerstedt (1969) observes “a teacher is, in his daily work, to a great extent a decision maker in a situation of constant social change .....”. Bligh (1972) also considers much of a teacher’s work as taking, and acting upon, a series of decisions.

In 1974 a major step forward was made at the “National Conference in Studies in Teaching”. Panel 6 of the conference produced a report (1975) arguing that research on teacher thinking is necessary if we are to understand that which is uniquely human in the process of teaching. The report goes on to say :

“It is obvious that what teachers do is directed in no small measure by what they think, moreover it will be necessary for any innovations in the context, practices and technology of teaching to be mediated through the minds and motives of the

teachers. To the extent that intended teacher behaviour is “thoughtless” it makes no use of the human teacher’s most unique attributes. In so doing it becomes mechanical and might well be done by machines. If, however, teaching is done, and, in all likelihood, will continue to be done by human teachers, the question of the relationship between thought and action becomes crucial.” (p. 1)

Clark and Peterson (1986) suggest that the panelists perceived the teacher as a professional who has more in common with physicians, lawyers and architects than with technicians who execute performances according to prescriptions or algorithms defined by others (p. 256).

The panelists argued that to understand, predict and influence what teachers do, researchers must study the psychological processes by which teachers perceive and define their professional responsibilities and situations.

Whitfield (1975) suggests that the decisions teachers make will have far-reaching consequences for the success, or otherwise, of educational policies and for the nature and quality of learning of their students.

Sutcliff and Whitfield (1979) reinforce the view that teachers’ decision making is important, by pointing out that a major part of teacher training is directed towards influencing the teachers’ decision making.

Calderhead (1984) suggests that “Our decisions provide a bridge between thought and action, linking the ways in which we understand the environment with our actions in it.” (p. 1) and goes on to observe, “ Studies of decision making focus upon the origins of human action. Peoples’ actions can often be puzzling and difficult to understand. Yet once aware of the thinking which preceded an action and the context in which that thinking developed, even astonishing acts of daring, violence or crime can become comprehensible. Investigations of decision making help us to understand the actions of others and to appreciate how our own actions emerge from the thoughts and experiences we have and the context in which we live.” (p. 3)

The move towards studies of teacher thought and decision making was explained by Shavelson (1983) “First, teachers are rational professionals who, like other professionals such as physicians, make judgments and carry out decisions in an uncertain, complex environment .... teachers behave rationally with respect to the simplified models of reality they construct.... teacher’s behaviour is guided by their thoughts, judgments and decisions” (p. 392)

Clark & Peterson (1986) in a review of “Teacher’s thought processes” state: “the thinking, planning and decision making of teachers constitutes a large part of the psychological context of teaching. It is within this context that curriculum is interpreted and acted upon where teachers teach and students learn. Teacher behaviour is substantially influenced and even determined by teachers’ thought processes” (p. 255) and suggest that “the ultimate goal of research on teachers’ thought processes is to construct a portrayal of the cognitive psychology of teaching for use by educational theorists, policy makers, curriculum designers, teacher educators, school administrators and teachers themselves.” (p. 255)

From this review of teachers’ thoughts and decision making, Clark and Peterson conclude “because this research is so new, each study seems to break new ground. At this time we have little that could be called a systematic and cumulative body of research.” (p 292). They go on to suggest that researchers have tended to focus on relatively discrete and isolated aspects of teachers’ thoughts and actions and point out that since most of the studies have been concerned with teachers in primary schools “there is a conspicuous absence of attention to thought processes of secondary teachers.” (p. 292). In the whole of the review there were no references to the thought processes or decision making of teachers in further education.

As stated before, it is hoped that , at least in part, the present study can address some of the deficiencies pointed out by Clark and Peterson and summarised in the previous paragraph.



## **SECTION 3 CONTEXTS OF RESEARCH ON TEACHERS' DECISION MAKING**

### **(i) Brief Background and Rationale**

The literature related to research on teaching is substantially related to primary and secondary school contexts, so that what is known about the nature of teaching and of teachers' thoughts and decision making is within these contexts, whilst studies within a Further Education context have not attracted the same amount of attention. A related point may be that the teacher education provided for F.E. teachers, at least in Scotland, is separate and in important respects different from that for school teachers.

The literature on teacher education and training shows that, in Scotland and beyond, the school teaching force is predominantly recruited from the population of young persons who have completed their specialist academic studies at university or equivalent institutions. They then typically follow on, with uninteruption, to pre-service courses of teacher education consisting of theoretical and methodological studies interspersed with periods of practical placements in schools. Permanent appointment to a school post is normally preceded by a probationary period.

In reviewing the programme of research on teachers' decision making, Clark and Peterson (1986) observe:

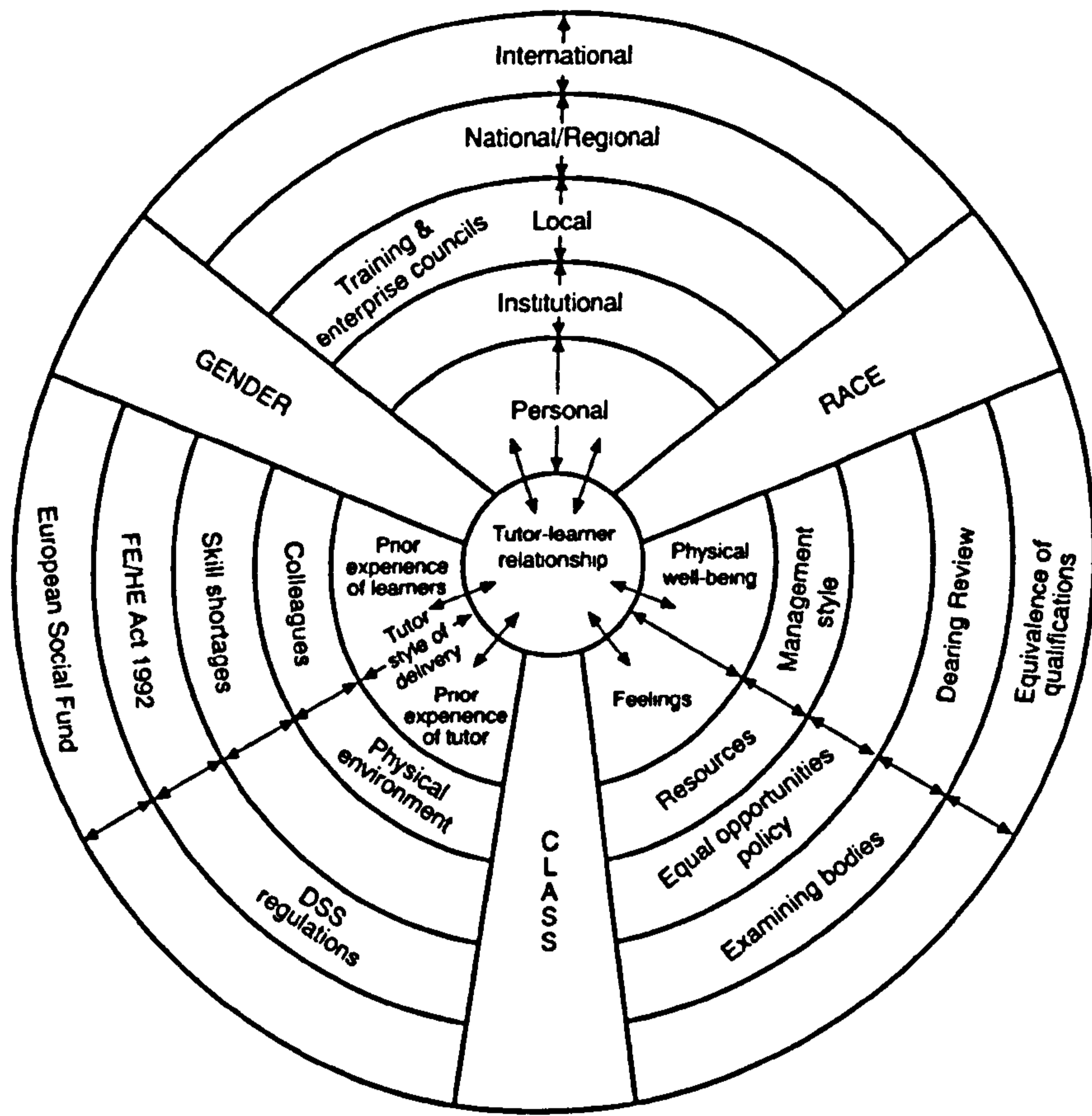
“..... the emerging picture of the teacher as a reflective practitioner is a change with professional experience. The teacher education majors who would become professionals in this sense are fully grounded in the disciplines and subject matter that they will teach. The study of subject matter focuses on both content and on the cognitive organisation of that content in ways useful to themselves and to their future students. They have had both supervised practice in using the behavioural skills and strategies of teaching and have also been initiated into the more variable aspects of teaching, including the full variety of types of planning and interactive decision making. This teacher has

developed a style of planning for instruction that includes several inter-related types of planning and, therefore, becomes more streamlined and automatic with experience". (p. 292)

This picture of the developing life of a teacher as described by Clark and Peterson contrasts with that of the F.E. teacher. Niven (1992) reviews the development of Scottish Further Education provision, and the selection and training of Scottish F.E. teachers from the early 1960's to the early 1990's. Niven observes that the Scottish F.E. sector is characterised by an ongoing need to respond to change in the form of succession of Government initiatives designed to provide a qualified workforce suited to the continuing changing needs of the country's economic development. F.E. teachers are charged with implementing these initiatives. Unlike their primary and secondary counterparts they do not undergo any mandatory form of pre-service teacher education. They are recruited into the classroom directly from the non-teaching workforce on the basis of their commercial/industrial experience. When they enter the teaching profession they are typically older than their school teacher counterparts. Teacher training is provided on an in-service basis, and at widely varying stages of individual teachers' careers. The effects of Government initiatives in Further Education have resulted in ever-greater diversity of education provision to an ever increasingly widening student population, and a curriculum which is increasingly articulated with Higher Education. For a range of views and discussion on the changing environment of Scottish Further Education provision see Bryce and Humes (1999). The working environment of the F.E. teacher has since the mid 1980's become increasingly complex; this complexity is reviewed and discussed by Huddelston and Unwin (1997) and is illustrated in Figure 1 below.

Within this changing environment economic pressures have resulted in changes in the provision of Scottish F.E. teacher education. In the 1980's the course took the form of two full-time blocks of 10 weeks in-service teaching supported by 10 teaching-practice visits. Through successive changes, by the late 1990's the curriculum for in-service training was reduced to 12 modules each delivered *via* 4 days of part-time attendance, supported by distance-learning texts and a total of 4 teaching practice visits. The provision of teacher education for F.E. teachers is becoming more diverse both in terms

providers of training and the range of modes of delivery. (See Osborne and Finlay 1999)



**Figure 1 The Environment of the FE Teacher** (From Huddleston and Unwin (1997 p. 79)

**(ii) Contemporary Policy and Practice within Scottish Further Education**

Of the models of teaching discussed in section 2 the most predominant and influential has been the Process-Product model. This model has strongly influenced the educational thinking and policy making of recent UK Governments and, in its latest manifestations, has informed the general nature and detail of policy documents. For example curricula in Scotland have been, starting in the 1980', substantially re-written in competency based terms under the auspices of the Scottish Vocational Educational Council (Scotvec) and the Scottish Examining Board (SEB), since 1998 amalgamated in the Scottish Qualification Authority.

In 1993 the Scottish Office Education and Industry Department (SOEID) issued “Guidelines for Teacher Training Courses”, which appears to be underpinned by the philosophy of the Process-Product model. “The government consider that greater provision than ever should be given in teacher training to the securing of classroom skills by newly-qualified teachers and that competence in teaching should be the critical factor which institutions must take into account in designing courses.”

The competency-based approach to curriculum design is based on functional analysis (a systems approach to training) which would appear to be well-suited to the training in skills, procedures and techniques where assessment can be based on observation of behaviour and upon predicted, or prescribed, outcomes.

The following extracts from Ober, Bentley and Miller (1971) would appear to typify the Government’s current philosophy and its relationship with the process-product model :

“The development and value of sound objectives - in measurable behavioural terms - is at the apex of interest in educational thought.” (p 3).

1. “The complex teaching-learning situation can be divided into a series of related, yet separate variables that can be identified, classified, measured and studied.
2. The role of teachers as they operates within the framework of this situation can be described in terms of three sets of functional variables:
  - a. establishing learning objectives.
  - b. facilitating learning/instruction.
  - c. measuring and evaluating learning.
3. The instructional-learning situation, as it relates to the instructional phase of teaching, consists of three basic elements:
  - a. the learner.
  - b. the learning stimuli
  - c. an instructional agent - in this case, the teacher.
4. In terms of the instructional-learning situation, two important sets of variables in the learning stimuli are content or instructional approach and the socio-emotional climate.

5. Within the framework of the instructional-learning situation, the instructional agent (teacher) has two very important functions:
  - a. to create a positive socio-emotional climate in which the learner will feel comfortable and learning will be facilitated.
  - b. to manipulate and control the content in ways that will facilitate learning to the ends determined by the learning objectives.
6. The creation of a positive socio-emotional atmosphere and the manipulation and control of the learning stimuli are contingent upon skills that can be identified and described in functional and strategical terms and, in turn, that can be learned and measured.
7. Observers can be trained to acquire and sharpen certain skills that will enable them to study the classroom in a systematic and objective fashion.
8. Teachers can be trained to acquire and sharpen certain skills that will enable them to be aware of and control their own behaviour in the instructional-learning situation.
9. Teachers can - with awareness and control-develop strategies of teaching that can be true both to their philosophies and to learning theory.” (pp. 3-4)

The move towards competency-based training for students and teachers has not been received without considerable criticism. Halliday (1997) argues that elitism in the formulation of policies detracts from the teacher's ability to perform as an autonomous professional, while Carr (1993) argues that “competence models of teacher professionalism are based on a number--actually a tangle--of conceptual confusion which once apparent indicate that they require to be eschewed as philosophically incoherent” (p. 18) and goes on to argue that what the guidelines offer is “....not an inventory of empirically observed and described skills but a list of highly debatable prescriptions enshrining assumptions of an undeniable normative or evaluative nature.” (p.18) Carr concludes his argument by saying “thus the pre-competence of the autonomous reflective practitioner and that of the post-competence executive of guidelines and other instructions pull in quite contrary directions - and we have it on the very highest authority that no man can serve two masters.” (p. 25)

In response to the SOEID guidelines, referred to above, categories of teachers' competencies have been developed for Further Education teacher training, (The nature of such training will be discussed later in the study) It may be noted in passing that the competency-based approach to F.E. teacher training was not taken as an initiative by the providers of such training as a consequence of their evaluations of programmes of teacher training, but rather was the direct consequence of government policy making and guidelines. As one teacher educator remarked in discussion with the researcher, "we have to adapt a competency-based approach to teacher training because it is the only game in town."

From the mid 1980's the discourse on research methodologies has been strongly influenced by post-modernism in which the epistemology and ontology of modernist researchers is deconstructed and questioned. Writing in the tradition of post-modernism (and building on the work of Derrida 1976), Carr (1996), Giddens (1993) and Halliday (1996) emphasise the need to enquire into what may be acceptable as "knowledge", "meaning", "fact" etc. They focus on "opening up" perspectives and interpretations by pointing out that "text" can be "read" in a number of different ways, leading to new insights which render structuralists accounts impoverished.

In the 1990's the major approach to research on teaching has focused on teachers' conceptions of teaching (see Kember 1997). Prosser and Trigwell (1999) report that studies conducted by Dall'Alba (1991), Martin and Balla (1991), Samuelowicz and Bain (1992), Martin and Ramsden (1993), and Prosser et. al (1994), all yielded similar results, showing that teachers' conceptualise teaching on a continuum from simple to complex. The more complete conception involves helping students change their conceptions of the subject matter while the limited conceptions involve transmission of subject information or teachers' understanding. It will be shown later in the study that this continuum of ways in which teaching is conceived, was shared by the F.E. teachers who were subjects of the study.

## **SECTION 4 INVESTIGATING THE NATURE OF DECISION AND DECISION MAKING**

### **(i) Brief Introduction**

The purpose of this section is to examine the literature in order to investigate the range of meanings which are attached to the concept of 'decision' and to develop, if necessary, a new definition of the concept which may prove relevant and applicable in the context of the present study.

### **(ii) Defining the Concept Decision**

According to a range of dictionary sources, a decision can be defined as :

- \* a judgment, determination, choice, arrived at after comparing two things;
- \* the several choices of two or more parties, or several courses of action;
- \* quality of being able to decide, to make up one's mind, rapidly and finally, firmness, resolution;
- \* settlement (of question etc) conclusion, formal judgment, making up one's mind, resolve;
- \* judgment, conclusion, or resolution, reached or given;
- \* the act of making up one's mind.

These examples of definitions serve to illustrate in this respect, a major difference between the methodologies in studies related to the natural sciences and those related to the human sciences. The natural sciences have developed a language which is more amenable to standardised definitions, while the human sciences, by their nature can at best produce a range of optional definitions of a given concept.

## **The nature of decision used in the literature of decision theory.**

The concept “decision” as defined in dictionaries appears to be context related. As an aid to formulating an operational definition of decision which would be context free, and therefore capable of being applied in whatever circumstances were encountered during the study, a wide range of literature related to “decision” and “decision making” was reviewed. The salient features of the nature and meaning of decision arrived at in key readings are summarised and discussed in the remaining part of this sub-section. Watkins (1976) suggests:

“One can speak of decision theory in two different senses: in the sense of a normative (or prescriptive) theory, and in the sense of an empirical (or descriptive) theory. A descriptive theory of decision seeks to discover, regularities, or principles in the way people actually make decisions in given situations. Clearly the nature of the decision maker, his goals or values his state of knowledge or his thinking habits, his predilections or prejudices are relevant in a descriptive theory, but the question of whether the decision is good or bad is not relevant, a descriptive theory is always concerned with what is, not with what ought to be. A normative theory on the other hand, seeks to discover rules for decision making in which the value system is assumed as given. To put it another way, a normative theory asks how a ‘rational’ decision maker would act. Where there is only one decision maker the outcomes may depend only on his decision or it may depend on other circumstances. In the former case the decision maker need only select the decision which leads to the most preferred outcome. In the latter case the decision maker must attempt to determine the likelihood of events outwith his/her control which will affect the decision.” (p. 84)

Watkins proposes two kinds of decision; a **logical** decision which is arrived at through an unconscious and/or uncritical acceptance of a proposition which gives rise to a belief, and a **psychological** decision which is arrived at through deliberation and resolution.



Watkins explains :

“Consider someone who possesses no evidence or argument to support the claim that God exists, but nevertheless believes in God. He may be said to have decided (in the logical sense) to accept the proposition that God exists. But this does not mean that he took a decision in the psychological sense. He may have done so; perhaps he wrestled with the problem and finally resolved to believe in God. On the other hand he may have been believing in God without any struggle for as long as he could remember. I say that someone makes a decision in the logical sense if he accepts a proposition which is neither necessarily true nor logically implied by other propositions which he accepts; a decision in the psychological sense on the other hand involves deliberation and resolution.” (p. 21)

Watkins argues that moral propositions (logical decisions):

“do not impose themselves nor are they imposed by something else upon us, we choose them (however unconsciously or uncritically ... we just find ourselves accepting without struggle and deliberation that brutality is bad, though we cannot prove it.”(p. 22-23) and further supports his contention of logical decisions by saying “if the premises of scientific theory are neither self evident (which they surely are not) nor calculable (whether by deduction or probabalistically) from other more reliable kinds of knowledge, then acceptance of them must likewise involve “decisions” in the logical sense.” (pp. 22-23)

Watkins, in saying that if someone chooses to believe a proposition, he/she has made a decision, is suggesting that to arrive at a decision there must exist at least one option. In the case of deciding to accept a proposition there is always the alternative of deciding to reject it.

A key feature of Watkins’ argument is that the alternative need not necessarily have been subjected to conscious consideration so that the decision maker need not be aware of any alternatives. A second and important aspect of Watkins’ argument is that proof or

alternatives. A second and important aspect of Watkins' argument is that proof or evidence is not a necessary condition for making a decision.

The assertion that the decision making process is not wholly a conscious activity is supported by Hogarth (1980) He states that "almost all decisions are based on anticipations people make about the immediate and/or distant future. Anticipations or predictive judgments, as I call them, lead to choices, i.e. decisions". Hogarth goes on to suggest that "people are unaware of how they make decisions, and often why they prefer one alternative to others ..... the basis of predictive judgment is largely intuitive." (p. ix)

Penfield (1952) has demonstrated that the subconscious mind retains all thoughts and emotions gained from experience, even back to very early ages. Under clinical conditions, Penfield stimulated different parts of the brain enabling patients to recall vividly both their emotional feelings and their thoughts in great detail from early experiences of which they were no longer consciously aware. Although it is beyond the scope of the present study to investigate the nature of the subconscious, it's potential to influence teachers' individual decision making should not be discounted.

Nisbet and Ross (1980) argue that people are often not aware of the real basis of their decisions..... "unlike cognitive and social psychologists most people believe that their conscious feelings and judgments control their actions." (p.2)

A view expressed in common over the range of sources drawn upon in this section is that, in theory, decisions share the characteristic of being "definite" and unambiguous: there is no place in the mind of the decision maker for uncertainty. There are options and therefore degrees of uncertainty up to the point of decision: "making up one's mind" is done in a context of the pre-decision content or substance -- the new material about which decisions are made, which must, by definition, be susceptible to interpretation since, as established above, the taking of a decision implies choice, judgment, or resolution. However, at the point of decision, all uncertainty and ambiguity vanishes; this characteristic definiteness (definitiveness) of the these definitions of decision seems

to raise major problems in applying the concept in the real world, for example in the context of teachers' decision making.

Can these abstract, theoretical ideas about the nature of "decision" be made applicable or operational, and if so how? The complexity of the concept in the real world of decision making may better be approached by taking into account and analysing critically existing **models** of decision making. In this way, an approach may be made to the establishment of an unambiguous applicable definition of "decision"

### **(iii) Prescriptive Models of Decision Making**

Jabes (1978) defines a decision as a goal-directed behaviour made by the individual in response to a certain need with the intention of satisfying the motive that the need occasions, and goes on to state that the decision process starts with problem identification and ends with a choice.

Etzioni (1967) suggests that "rationalistic models are widely held conceptions about how decisions are and ought to be made :

1. An actor becomes aware of a problem.
2. Posits a goal.
3. Carefully weighs alternative means.
4. Chooses among them according to his estimate of their respective merits with reference to the state of affairs he prefers." (p. 385)

A succinct description of the rational model is suggested by Scott (1967) :

1. A search to discover goals.
2. The formulation of objectives after the search.
3. The selection of alternative strategies to accomplish objectives.
4. The evaluation of outcomes. (p. 219)

To the variables postulated by Jakes must now be added those of Scott: "search", "objectives", "selection", "evaluation", and those of Etzioni: "awareness," "weighing alternatives," "estimate", "merit", "preferences."

Carley (1981) suggests that "In almost every case working definitions of rationality can be expressed by five sequential activities undertaken by the idealised "rational man."

1. A problem which requires action is identified and goals, values, objectives related to the problem are classified and organised.
2. All important possible ways of solving the problem, or achieving goals and objectives are listed - these are alternative strategies, courses of action or policies.
3. The important consequences which would follow from each alternative strategy are predicted and the probability of these consequences occurring is estimated.
4. The consequence of each strategy is then compared to the goals and objectives identified above.
5. Finally, a policy or strategy is selected in which consequences most closely match goals and objectives, or the problem is most nearly solved, or most benefit is got from each cost, or equal benefit at least cost. (p. 61)

The acceptance of a rational model is supported by Smith and May (1980) who argue that the elements of the rational model are common to the making of all kinds of decisions.

The rational model is referred to in many studies of decision making and investigators appear to be reluctant to abandon it. The tendency has been rather to adjust it marginally as Simon (1976) proposed in his theory of humans as "satisficers" rather than rational decision makers, while Smith and May (1980), and Lindblom (1968), suggest that decision making is more "incremental" than rational. Within instruction and education the predominant model of decision making is perhaps that suggested by Tyler (1950) in which the sequential steps have the familiar ring of the rationalist approach about them:

The model proposed by Tyler (1950) is found throughout education literature.

1. Specify objectives.
2. Select learning activities.
3. Organise learning activities.
4. Specify evaluation procedures.

Johnson-Laird and Shafir (1993) advocate that the study of decision making should be allied to the study of reasoning :

“Humans reason in order to make decisions and to justify them both to themselves and others. They reason in order to determine (decide) the consequences of their beliefs and their hypothetical actions, they reason to work out plans of action, they make decisions about what values to treat as paramount, they make decisions about what actions to take and they make decisions about what information to base their reasoning on. Hence, there is an inter-dependence between reasoning and decision making. They are, as computer scientists say, mutually recursive.” (p. 2)

Johnson-Laird and Shafir point out that the classical normative account of decision making is the “expected utility theory” (EUT) in which the value of an alternative consists of the sum of the utility of its outcomes each weighted by its probability (p. 5) and follows such rules as cancellation and dominance which reflect an image of people as “rational economic individuals.” The “rule of cancellation” states that any state of the world that yields the same outcome regardless of one’s choices should be “cancelled” or eliminated from further consideration, thus choice between options should depend only on those states in which they yield different outcomes. The “rule of transitivity” states that for any alternatives A, B or C, if A is preferred to B and B is preferred to C, then A must be preferred to C. The “rule of dominance” states that if one option is perceived to be better than another in one state of the world and at least as good in all other states, then the dominant option should be chosen.

Transitivity is not always a simple equation with only one variable: a teacher may prefer A, “to teach mathematics to intelligent students” rather than B “to teach mathematics to under achievers”, while preferring C “to teach practical subjects to under-achievers, rather than mathematics to intelligent students”, so that the relationship between options A, B and C is no longer linear but circular, so that the rule cannot apply. In practical teaching situations the number of variables and options are not always amenable to processing by transitivity. The rule of dominance, which states that if one option is better than another in one state of the world and at least as good in all other states then the dominant option should be chosen, again suggests that “dominance” is a “fact”, but the decision as to which is a dominant option is likely to be a function of the individual’s value system, or preference, or perception at a point in time, rather than a matter of fact.

#### **(iv) Critique of Prescriptive Models**

In spite of the predominance of Tyler’s model in teacher training programmes, the investigations of Taylor (1970), Zahorik (1975), Peterson, Marx and Clark (1978), Goodlad & Klein (1970), Joyce and Harootunian (1964), Popham and Baker (1970), Morine-Dershiner and Vallance (1976), Morine-Dershiner (1979), Yinger (1977), Clark and Yinger (1979), Favor-Lydecker (1981), McLeod (1981), Neale, Pace and Case (1983), Sardo (1982), show that teachers do not follow the Tyler model in their practice of decision making. Richardson and Jordan (1979) conclude that a strongly rational or “rational-comprehensive” solution to a problem is simply not possible. Churchman (1968) suggests that the rational model is flawless in its axioms but does not tell us much about real behaviour.

It may be suggested that the mismatch between the prescriptions of rational models and the practice of teachers’ decision making, can be at least partially accounted for by recognising that not all of the decisions teachers make can be described as “problem solving.” In those decisions which can be so described, the idea that teachers reduce (or could reduce) the variables in their decision making to a mathematical formula is absurd. What prescriptive models of decision making prescribe is a series of rules which purport to guide the decision maker in making a series of minor decisions, and further rules

which integrate these decisions in such a way as to arrive at a final conclusion. Though such models have failed fully to describe the practice of decision making, they have some limited relevance for the study of individual decision making in practice, in that they highlight the nature of decision as some combination of minor decisions leading to a final conclusion. They also suggest that these minor decisions are in some way evaluated during the process of reaching a final decision. The process of decision making proposed by these models assumes that decision making is a conscious intellectual process in which the decision maker collects some data - makes a decision - evaluates this decision - confirms this decision - moves on to new data, and repeats the process until all the decisions logically fit together. The evaluation of a decision can be facilitated by checking out, using the “rules” of the model, that is, the rules of the model are used to decide if the decision should be confirmed rather than the rules being used to aid the decision making process. In this way, the rules do not appear to guide the decision making process, rather they act as moderators of the process.

Prescriptive models of decision making attempt to present decision making as a “science” based on the application of rules or laws. Johnson-Laird and Shafir claim that research in behavioural decision theory has documented systematical and predictable violation of the assumptions of the EUT model.

Classical models of decision making such as the EUT model, have been developed by mathematicians whose concern is to devise computer programmes for the solution of problems and the elaboration of theories. With reference to individuals’ decision making Shotton (1975) points out:

1. “Computers are not agents in the processes they execute.
2. They do not undergo qualitative transformations in their structure neither do they grow their own structure.
3. They are not immersed in the world in the sense of living in a state of exchange with their surroundings.

4. They have no social character in the sense of being able to help in the completion of another's project by understanding one another's goals, in short compared with organisms, never mind persons, mechanisms are somewhat limited.”  
(p. 61)

#### **(v) Alternative Psychological Perspectives on Decision Making**

Kelly (1955) points out that most psychological theories, for instance those which portray humans as machines, or people as biological organisms, fail to account for the behaviour of those who devise and use such theories. In discussing Kelly's own theory, Peck and Whitlow (1975) point out :

“The basic philosophical assumption in Kelly's theory is that all events are subject to alternative constructions. There is no absolute truth or objective reality but only ways of interpreting events (constructs) which are more or less useful in advancing our understanding and ability to predict future events. Thus the essence of Kelly's theory is contained in a single fundamental postulate “a person's processes are psychologically channelled by the ways in which he anticipates events.” (p. 47)

In discussing the general properties of humans as decision makers, Audley (1967) says:

“Most real decisions involve a complex interplay of many factors and concern a highly specific set of circumstances.....One difficulty in comparing the real man with his rational counterpart is that the latter is usually studied in situations in which all relevant information about a decision that could be available is laid out and ready for use. However, practical man is not usually in this happy state.....subjects attach some value to risk itself and actually prefer a gamble to a certainty.....In real decision situations man collects information until an adequate amount is available to justify one action or another.....we give far too much weight to our prior opinions. ....Minds appear not to need making up: it is unmaking them which takes time and effort.....“If one dramatises the legal



evidence from a court case and presents it in different orders then these orders will influence the opinion that is formed about the guilt of the defendant.....Science itself tends to be resistant to evidence which would demand a dramatic overhaul of a system of knowledge in which so much time and effort has been invested and which often possesses great beauty.....Looked at in this light our choices do not seem to be that irrational.....What makes up a mind is its history and evidence too - but only if that is in the right direction. Or to put it another way, minds quite often come already made up.” (pp. 42-50)

Occupying the idea that minds often come already made up does not imply that people make decisions without thinking, but rather that the paradigm they employ and their interpretation of data tend to guide their thinking along particular avenues. In viewing a situation, information tends to be interpreted and explanations sought which fit the individual's paradigm.

Within the research community paradigms have tended to be more formally developed and can be identified by the kinds of explanations presented by particular researchers. It would be incongruent for a behavioural psychologist to present the findings of his or her investigations in anything other than behavioural terms. In so doing, the behaviourist may be discounting alternative explanations of the phenomena. In contrast, the paradigm of cognitive psychologists would incline them to look for explanations which accounted for mental processes as a means of explaining phenomena. To this extent, the behavioural psychologist and the cognitive psychologist have already made up their minds about the nature of the phenomenon they are investigating. For a behavioural psychologist to accept a cognitive psychologist's explanation of phenomena, would required the behaviourist to make a significant “paradigm shift”. Paradigm shifts are uncomfortable to make because they create dissonance Festinger (1959).. Paradigm shifts may take the form of “flashes of insight”, what one may describe as the “eureka” phenomena, but more commonly evolve through new experiences allied to training.

## **(vi) A Tentative Definition of Decision**

As stated in the introduction to this section, a major aim was to discover and/or to formulate an operational definition of the concept “decision”. Such a definition would possess the qualities of being able to be tested empirically and also of being applicable to the task of “recognising” a decision in the abstract, i.e. separated out from the **process** of decision making.

There is a wide range of definitions of decision and of prescriptive models of decision making, all of which have the common feature that they depend upon the awareness of the decision maker of a pre-specified process or sequence of decision making activities. However, critiques of such prescriptive models suggest that, in the case of many real-world decisions, they are arrived at without the need for conscious cognitive activity on the part of the decision maker. Some aspects of decision making cannot adequately be described on the basis of prescriptive definitions and models.

An operational definition of “decision” in order to be effective and applicable has to meet the following criteria :

- ✱ it must be compatible with and encapsulate existing definitions of decision, i.e. prescriptive definitions;
- ✱ it should avoid the main limitation of prescriptive definitions and models, i.e. their implication that a decision can only be arrived at through a deliberate **process** of conscious manipulation of variables;
- ✱ it needs to take into account the subconscious nature of some aspects of the process of decision making, ie that some decisions can be made without deliberation;

- ✱ it needs to be able to facilitate the recognition of decisions of all types. whether arrived at (partially or wholly) as a result of conscious analysis, or otherwise.

For the above reasons, it is fruitless to depend upon a description of the **process** of decision making in order to arrive at an acceptable working definition of the **product**, i.e. to be able to recognise a decision as such, without dependence upon the subject matter, context or description of the process leading up to it.

From a review of the literature, and in the light of the criteria stated above, a tentative definition was formulated as follows:

“A decision consists of the removal of doubt or uncertainty from one’s mind about accepting a proposition in circumstances where an alternative proposition could be suggested.”

The definition was tested against the range of definitions of “decision” and against the “products” of the prescriptive models of decision making reviewed in this section. The results demonstrated its compatibility with all of them, while also promoting the desired concentration upon the end product rather than the process of decision making. In this way, the definition as established above promises to provide unambiguous criteria for the recognition and subsequent classification of the statements of teachers and others as decisions (or not, as the case may be). This definition was therefore adopted tentatively while awaiting possible amendment in the light of the review of empirical studies of teachers’ decision making (see Section 7, below and subsequent Sections).

#### **(vii) Summary and Conclusions (Sections 2,3, and 4)**

Sections 2, 3 and 4 have been focused upon the review of relevant literature in the fields of research into teaching, teachers’ decision making and the nature of decisions and decision making. In this context teaching is taken to include all aspects of the teaching and learning process.

## **Section 2**

Research programmes on teaching consist of many studies, carried out over a considerable period of time by many researchers, using a wide range of approaches and methodological strategies.

Such studies have been conventionally and conveniently categorised, by distinguishing broad types of approaches through the examination of the epistemological and ontological positions of the researchers. Researchers' broad philosophical positions, evidenced either explicitly or implicitly in their work, consist of behaviourist, cognitive, social/ cultural and other approaches which have given rise to those matching model structures described and explained in the course of Section 3.

The earliest developed and most fundamental of these models is the 'Process-Product' model, which corresponds to a behaviourist position. This has given rise to the evolution of a series of subsequent models, modified and adapted through a sequence of earlier versions. It is fair to state that key elements of the fundamental behaviourist model, either in the 'pure' version or diluted in the form of one or more of its successor models, is still influential. It has proved generally attractive over many years to policy-makers, not least perhaps for its simplicity and the seemingly self-evident nature of some of its tenets and prescriptions.

Each successive model, also, is more complex than its predecessor in the sense that it has accumulated more elements - more stages in the description of teaching activity. The most recent of these approaches, dealt with in Section 2 (v), is distinguishable by its focus upon teachers' decision making as a key element. The research in this area, as explained in the text and in the sources quoted, is as yet in a 'prescience' state, not susceptible as yet to the degree of generalisation and applicability of some earlier models.

### **Section 3**

This section was concerned with surveying the available literature on teachers' decision making with a view to assessing its range and applicability to the contexts of the proposed study.

Existing studies have concentrated almost exclusively upon those teachers making decisions in the Primary and Secondary sectors of education: the Further Education (F.E.) sector has comparatively been almost completely neglected.

The characteristics of the Primary and Secondary sectors contrast in many dimensions with those in Further Education. Teachers in the former sectors, the subjects of the majority of research projects past and present, are generally younger at entry to the profession, are usually subject to mandatory teacher education or training prior to paid employment (pre-service training) and are trained and find employment in school contexts which exhibit a fairly high degree of homogeneity. The school 'culture' into which they are inducted is highly uniform across systems, and therefore provides a more amenable context for large-scale studies.

The F.E. sector, in contrast, employs practitioners of a higher average age (often due to a desirable accumulation of professional, practical and personal life experience) who are trained on an in-service basis, in colleges which have historically been more heterogeneous in function and culture.

Although displaying a range of differences, often due to regional local and industrial specialisation, the F.E. sector was fairly stable until the mid-1980's. Thereafter, the constituent colleges have been subject to substantial and rapid change both imposed by authority externally and self-imposed on the basis of corporate autonomy.

The two main contextual differences in subjects (i.e. practitioners) and in contexts (i.e. environment) have resulted in contrasting backgrounds in terms of research up to the present time.

Therefore, two broad conclusions can be drawn in terms of the present study. Firstly, there is a need for research studies to be carried out in the field of teachers' decision making in the F.E. sector in the UK and beyond. Secondly, extreme caution needs to be exercised in the translation of findings either of existing research studies into F.E. contexts, or from the present study (based as it is upon the responses of a given cohort of subjects set in their particular Scottish F.E. contexts) back into the other sectors of education.

#### **Section 4**

This section was concerned with the review of literature in order to arrive at a tentative operational definition of "decision" which would permit the realistic identification and classification of teachers' decisions, based upon their own statements about their professional activities. Such a definition would possess the quality of being empirically testable. It was concluded that the definition arrived at met the criteria outlined in Section 4, and, pending the conclusions of Section 5, would be applicable in the later stages of the study.

## **SECTION 5 STUDIES OF TEACHERS DECISION MAKING**

### **(i) Brief Introduction and Rationale**

The literature review carried out and summarised in preceding sections of the study (Sections 2,3,4) was concerned with the investigation of theoretical aspects of the concept decision and of decision making.

In contrast, this section is concerned with reviewing and discussing research studies which have been focused upon empirical aspects of the practice of decision making by teachers as a professional group. Key aspects of decision making which have been identified in the studies are described, commented upon and summarised in the course of the section. This work permits a revisitation of the operational definition of decision tentatively adopted in Section 4 (vi), to establish the extent of its compatibility with the studies surveyed in this section.

Research on teachers' decision making has been influenced by the way in which "teaching" has been classified by Jackson (1968) who identifies three phases of teaching: preactive, interactive and postactive. Individual studies have tended to relate to one or other of these phases. "Preactive decisions" are those which teachers make when planning, prior to interacting with their students. "Interactive decisions" are those which teachers make during the process of teaching. "Postactive decisions" are those made after the teaching activity. Preactive and postactive decisions do not necessarily have an urgency about them, there is an extended "time space" between the decisions made and their operationalisation, if in practice they do become operationalised.

Jackson's three phases of teaching can be related to a threefold categorisation of decisions originated by Calderhead (1984) : reflective, immediate and routine. Calderhead defines "reflective decisions" as..... "decisions which can be taken over a period of time ..... involving the identification of alternatives and the prediction and evaluation of their outcomes." (p. 2)

In explaining the classification of decisions as “immediate decisions”, Calderhead says.....“many everyday actions, in fact, depend upon snap judgments or quick intuitive decision-making. Based on our understanding of the situation we confront, we make a hasty guess at an appropriate response.” (p 2)

Of “routine decisions” Calderhead says:

“Some decisions in everyday life are made so often that they have become automatic and routine. In first learning to drive a car, many decisions have to be made, decisions to change gear, to accelerate or slow down; decisions concerning how to direct the car safely and how to cope with unexpected events etc. Once experienced in driving, however, these decisions are made automatically and the task of driving becomes largely routine. Many everyday social interactions also involve routine decisions-making.” (p. 2)

Having categorised decisions in this way, Calderhead goes on to say:

“Real life decisions, whether reflective, immediate or routine, are made within a context of influence and constraints. Factors beyond our control may limit the options available to us or determine how we perceive these options.” (p. 3)

Reflective decisions are most likely to pertain to Jackson's preactive and postactive phase of teaching, while immediate and routine decisions are more likely to be made in the interactive phase of teaching, though not exclusively so. An extended time space is a necessary, but not sufficient, condition for reflective decision making.

The substance of immediate or routine decisions appears to be largely a function of experience or, if put in another way, these decisions are “re-used” earlier decisions from similar situations and circumstances to the current decision. The nature of these decisions is that they become, with time, more repetitive and ultimately habitual. The nature of habits is that they are consistent, but consistency is not synonymous with quality. Experience *per se* therefore does not necessarily positively correlate with the quality of a



decision. The evaluation of the quality of a decision in a specific set of circumstances, and the possibility of improving future decisions to be made in similar circumstances, would seem to require (in addition to experience) the engagement in conscious “reflection.” ( See Dewey 1933 , Schon 1983, Tickle 1994 , Loughran 1996, Stornach and MacLure 1997).

## **(ii) Teachers’ Preactive (Planning) Decision Making**

In relation to teachers’ decision making and planning, Clark and Peterson ( 1986) observe that :

“The research on preactive decision making and thinking is concerned primarily with teachers planning. Teachers’ planning may be conceptualised as a cognitive process of visualising the future, considering means and ends and constructing a framework to guide his, or her, actions. Such a conceptualisation tends to be based on the theories and methods of cognitive psychology. (p. 260)

The studies summarised and discussed in the following paragraphs are focused upon the concept of preactive decision making and planning outlined above. A study of 261 teachers, carried out by Taylor (1970) concluded that teachers’ planning practice tended to concentrate on different priorities and sequences of thinking. Teachers tended to consider pupils’ needs, abilities and interests; after these considerations came subject matter, goals and teaching methods, and of even less priority, evaluation of the teaching.

Clark and Yinger (1979) report that teachers tend to give priority in planning to long term planning of the curriculum taking an annual, monthly or weekly view of anticipated activities. Lesson planning as such was reported by only 7% of the teachers as being amongst the three most important aspects of planning. Lesson planning was seldom reported as a detailed written activity but rather in the form of key points or lists of activities nested within the teacher’s “lesson image” (Morine - Dersheimer 1979) or in the form of a larger construct conceptualised as “activity flow.” (Joyce 1978-1979)

Zahorik (1975) asked 194 teachers to list the decisions they make prior to teaching. The findings reported that teachers' concerns in decision making are mainly related to "pupil activities." (81%). Teachers reported that the first decision they made concerned "content" (51%) followed by learning objectives (28%). Zahorik's conclusions were that "objectives were not seen as important by teachers in their decision making and that teachers' decision making is not a linear process starting with objectives."

Peterson, Marx and Clark (1978), studying 12 teachers in a laboratory situation, categorised teachers' planning time and concluded that teachers spend the largest proportion of their planning time concerned with "content" followed by instructional processes "activities", and the smallest proportion of their time on objectives. These findings are perhaps not too surprising when the methodology of the experiment is considered. The teachers were charged with teaching unfamiliar material to a group of students who were unknown to them. They were also given a list of six general teaching goals expressed in terms of content coverage, process goals and cognitive and attitudinal outcomes for the students. It would seem that many of the planning decisions in this latter study were, in fact, made by the researchers, leaving the teachers to consider only the nature of the content and how to teach it.

The conclusion to be drawn from this study is that the greater the degree of prescription and guidance given to teachers, the smaller is the "decision space" left to the teachers' discretion. It would seem from this study that the teachers' personal agenda (under such experimental conditions) was likely to be highly geared towards achieving the prescriptions given by the researchers. This may, or may not apply in the real world of teaching, but never the less this observation suggests that teachers' decisions may be influenced by their personal desires.

The findings of a study carried out by Morine - Dersheimer and Vallance (1976) under similar conditions to the above study, but with less prescription, supports the findings of Peterson *et. al's*, and also includes a report by the teachers that writing plans for lessons prescribed by the researchers was not typical of their own planning.

Yinger (1977) in her PhD dissertation concluded that teachers' planning is concerned substantially with planning "routines." Yinger defined routines as sets of established procedures for both teachers and students that function to control and coordinate specific sequences of behaviour and, hence, "planning" could be characterised as decision making about the selection, organisation and sequencing of routines. These findings are supported by Bromme (1982) and Creemers and Westerhof (1982).

From Yinger's definition of teachers' planning as "decision making about the selection, organising and sequencing of routines", routines being sets of established procedures for both teacher and students, it would seem that decision makers attempt to simplify decision making by "re-using" what they already know, i.e. established routines.

The process of committing plans to writing is believed by educationalists to aid in the clarification of thinking processes and decision making in the preactive phase of teaching, and in retrospective reflection in the postactive phase. A detailed written plan would seem necessary also if the plan was required to be communicated to another, or if the substance of the plan was complex, or novel to the decision maker.

Morine-Dershtiner and Joyces' descriptions of planning as "images" or "activity flows" suggest that teachers "visualise" the anticipated classroom scene much in the same way as one may view a picture or take in visually what one observes as a spectator of an event. The picture or the scene is visualised as a whole, not as a combination of discrete parts. Much of what is visualised is taken for granted and is not perceived as problematic or requiring conscious reflection or careful consideration, so that part of the planning process of teachers may be explained as emanating from "routine" decisions (as defined by Calderhead) and part as implicit acceptance of propositions related to the visualisation (in the sense of Watkins' logical decisions). For example, the research findings that objectives are not given a great deal of consideration by many teachers may be explained by suggesting that to the teacher objectives are implicit in what they plan to do, and further, that in the planning of activities or routines (Yinger) a number of objectives are being incorporated simultaneously, and these too appear to the teacher to be self-evident and not in need of elaboration through conscious reflection. There may therefore be

more than a grain of truth in the idea that “minds come already made up” and that teachers’ planning would seem to be based substantially on their experience and relatively less on intellectual manipulation of data.

## **Discussion**

In summary then, it may be suggested that teachers’ planning decisions are influenced by what the teacher desires to achieve, the teachers’ knowledge base, perception of what is likely to be problematic and perceptions of their ability to operationalise their plans. The lack of identification of objectives by teachers in their lesson planning may be explained by objectives being implicit in the holistic approach which teachers take to planning. Planning would appear to be a holistic “imaging” of desirable processes and/or outcomes, rather than a sequential number of staged decisions.

It appears that teachers (if not directed to do so as may occur in teacher training courses) prefer not to commit their planning in writing, but rather hold their plans in their “imagination.” In any case committing one’s thoughts in writing is not a simple task. One of the foremost exponents of the application of the scientific method to educational enquiry confirms this view in the introduction to his research design for the study of inter-personal perceptions. “The underlying decisions, although listed below, in fairly explicit form, were not nearly so consciously developed at the time.” (Gage 1972. p.178)

The degree to which planning decisions are committed in writing may also be a function of the perceived seriousness of the consequence of any part of the plan going wrong in practice. The ability to anticipate anything going wrong and perceive the seriousness of the consequence, is likely to be a reflection of the level of confidence of the planner to execute the plan and deal effectively with contingencies. Teachers’ decisions appear to be considerably influenced by the teachers’ personal knowledge of and experiences in dealing with students, and with the learning environment in which they work.

In lesson planning decision making, it would seem that there is an assumption on the part

of the teacher that what worked in the past will work in the future. This suggests that decisions made about future events are in this case strongly influenced by experience of similar past events. Findings from laboratory experiments of teachers' planning suggest that the decision maker's perception of their degree of autonomy is likely to influence the range of options they consider in decision making. (Peterson, Marx and Clark 1978)

### **“Time Space” in Decision Making**

Planning decisions are separated in time from any attempt to operationalise them. Decisions related to subject matter and student attributes are concerned with processing information which exists at the time of the decision making. Decisions related to the sequencing of activities or routines are concerned with events which have not yet happened. There is a backward-looking perspective to the former, and a forward-looking perspective to the latter. This suggests that knowledge and experience is likely to play a part in individuals' decision making. The ultimate purpose of planning would seem to be to anticipate likely events and their possible influence on desired outcomes.

The research findings suggest that a common element in teachers' planning involves the making of a number of discrete decisions, each of which may influence other decisions by the teacher in unforeseeable ways, and so may need to be made to interrelate during the actual process of teaching and learning. This may at least partially explain why teachers in practice do not follow a common prescribed model of lesson planning. This inter-relationship of decisions also suggests that means and ends are not readily separable, and that planning is more “holistic” than “linear.”

In contrast, prescriptive models are proposed from an orientation towards “problem solving”, requiring conscious intellectual consideration of all of the data related to the problem. The findings of studies of teachers' planning suggest that the whole of what teachers visualise is not problematic, but only specific aspects as perceived by individual teachers. The **sequence** in which these aspects are considered would appear to be less consequential than the **relationship**. For example, teachers regard the recognition of the relationship between the content of a lesson and the needs etc. of their students as more

important than the order in which these aspects are considered in planning processes.

It seems, then, that teachers in their planning decision making place considerable reliance on their experience and knowledge, approach planning more intuitively than analytically and, consequently, develop “personalised” approaches to planning.

### **(iii) Summary of Teachers’ Preactive Decision Making**

The reports of those researchers responsible for the studies reviewed and commented upon in this section support some general conclusions about the nature of teachers’ lesson planning.

In relation to their lesson planning , as an aspect of their decision making, teachers in general:

- \* give different emphasis and priorities to different elements of lesson planning;
- \* tend to plan holistically, rather than linearly;
- \* tend not to follow prescribed models of lesson-planning;
- \* tend not to commit teaching plans in detailed written format.

What factors may cause teachers to exhibit the above lesson-planning behaviours ? The decisions teachers make in the process of lesson-planning appear to be influenced by a variety of aspects of their professional experience, in particular those relating to prior instances of a similar nature. The extremely general nature of this explanation of causation is a consequence of the limitations of these studies, which mainly focus upon description of the consequences of decision rather than attempting to construct a theory of the decision making process. There are two main reasons for this. Firstly, the authors depend upon the rationales of teachers themselves for their decisions; teachers typically did not provide articulate explanations of the process. Secondly, the foundations for

such theories are incomplete in the absence of an adequate operational definition of the concept decision.

#### **(iv) Teachers' Interactive and Postactive Decision Making**

The rationale for the study of teachers' interactive decisions is summarised by Shavelson (1973): "Any teaching act is the result of a decision, whether conscious or sub-conscious, that the teacher makes after the complex cognitive processing of available information. This reasoning leads to the hypothesis that the basic teaching skill is decision making." (p. 18)

Marland (1977) defines a decision as a conscious choice, and restricts the operational definition of an "interactive decision" (as reported by teachers) to cases in which their reports include **all** of the following elements:

1. Teachers' explicit reference to consideration of alternatives.
2. Evidence that the teacher made a selection and became committed to one of the alternatives.
3. Evidence that the teacher followed through on the lesson with that choice or alternative.

Where teachers saw the need for some action, but considered only one course of action, or when a teacher reported taking a certain action and only then stated the reason for doing so, Marland categorised such reports as "deliberate acts."

Morine and Vallance (1975) identify a teacher's interactive decision when the teacher remembers consciously saying to himself or herself "Let's see, I think I'd better do this now" or "I guess I'll try this." (p. 49) Such statements presumably would lead to Marland's "deliberate act" and Shavelson's definition of "a conscious or unconscious decision to carry out an act."

Sutcliffe and Whitfield (1979) define an interactive decision as “a conscious act that occurs when at least two alternatives are available. The choice to change behaviour and the choice not to change behaviour.” The act of choosing implies that some criteria are used in making the choice and that the agent in making a conscious choice is aware of such criteria. This definition limits an interactive decision to choosing between behaviours. Behaviour can be observed, but observation alone cannot identify an interactive decision as defined by Sutcliffe and Whitfield: by observation alone we cannot differentiate a change in behaviour which was chosen by the agent from a change in behaviour that was not chosen by the agent, nor can we identify an interactive decision which resulted in the agent deciding not to change his or her behaviour.

Wodlinger (1980) defines an interactive decision as “a deliberate choice to implement a specific new action.” This definition implies the consideration of alternatives in making a choice and also implies that the choice of a specific new action was implemented, so that Wodlinger’s definition excludes the possibility of a teacher deciding not to change his or her behaviour.

Shroyer (1981) used the term “elective action” to conceptualise what she meant by a “decision.” Shroyer defined a “student occlusion” as a student difficulty or unexpected student performance in the classroom. When confronted with such an occlusion, Shroyer argues a teacher “elects” to respond with some action. Shroyer’s preference for the concept of “elective action” rather than “decision” was because “decision has traditionally implied the consideration of alternatives, a process for which research on interactive teacher thoughts has found little support.” (p. 10)

Marland’s definition clearly implies action resulting from conscious choice and is synonymous with Sutcliffe and Whitfield’s definition of a decision as a conscious act resulting from consideration of at least two alternatives and Wodlinger’s definition of a new action resulting from deliberate choice.

Marland’s definition of “deliberate act” and Shroyer’s definition of “elective action” are similar in that both identify conscious actions taken by the teacher, which are not



dependent on conscious processing of a “choice of alternatives.” It would seem that deliberate acts and elective actions as reported by teachers were the consequence of the teacher’s unawareness of the alternative of no action and/or that Marland and Shroyer in their separate researches considered only alternative actions and ignored the alternative of no action. There is no difficulty in accepting Marland’s “deliberate act” and Shroyer’s “elective actions” as decisions if we accept that the teachers were not compelled to act as they did. That there was no compulsion to act implies that the teachers’ *de facto* had a choice, though the teachers may not have been aware of the alternatives.

Clark and Peterson (1986) see these two definitions as being encompassed within the concept of a decision implying choice of alternatives, in that to commit a deliberate act or an elective action implies the choice not to act. Clark and Peterson suggest that these investigators have converged on a definition of an interactive decision as “a deliberate choice to implement a specific action.” (p. 273)

This definition appears to suffer from a difficulty of reconciling “a conscious choice” which implies awareness of a conscious alternative, with a “deliberate act” in which no conscious alternative is considered. Shavelson’s definition of an interactive decision as “an act which results from a conscious or unconscious decision” overcomes this difficulty, but highlights the problem of recognising an “unconscious” decision.

Foggerty, Wang and Creek (1982) when playing back tapes of teachers’ interactions within classrooms invited the teacher to recall any thought or decision which he or she made. In this way their identification of a decision was the recognition by teachers that they were aware of conscious thoughts related to their behaviour but not necessarily of considering alternatives.

What can be concluded from the above studies is that there is consensus that teachers’ classroom actions are informed by their interactive decisions. There is however no consensus as to how such decisions are made. The researchers have focused upon the substance of teachers’ decisions and have made *a priori* assumptions about the nature of decisions and the decision making process.

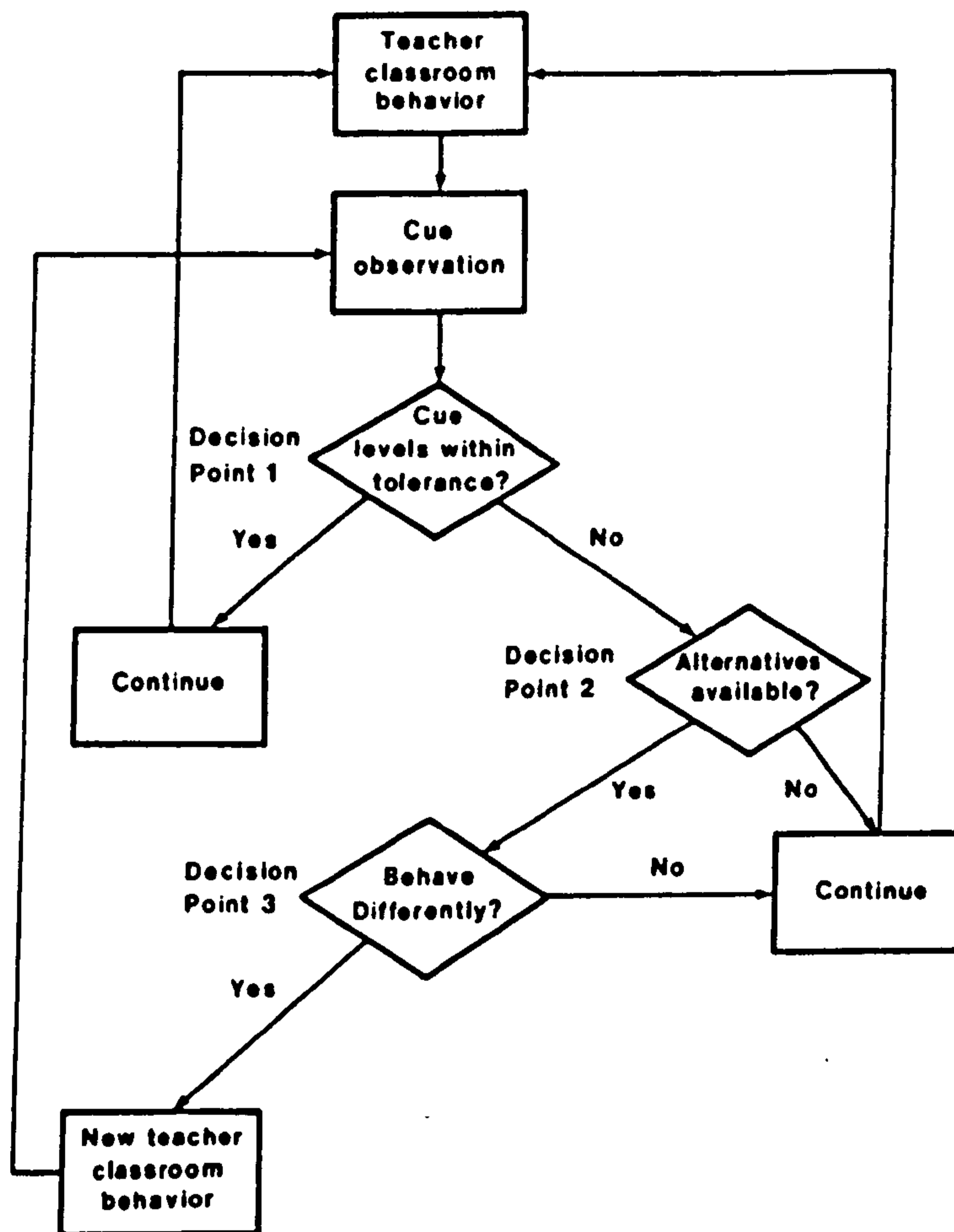
## **(v) Models of Teachers' Interactive Decision Making**

Snow (1972) describes teachers' decision making during classroom interaction as a cyclical process. Observation of student behaviour is followed by a judgment of whether student's behaviour is or is not within desirable limits. Dependent upon this judgment, a decision is made to continue the teaching process unchanged or to search memory for an alternative teaching behaviour which would bring students back within limits of acceptance. If no alternative is found in memory, the teacher would continue without change. If a plausible alternative was found, the teacher might decide to use it, or ignore it and continue as before.

Peterson and Clark (1978) present a model of this sequence of decision making, (see Figure 2 below ).

The model shows four pathways representing the stages of a teacher's decision making:

1. "The teacher judges students classroom behaviour to be within tolerance (teachers judges that the students are understanding the lesson and are participating appropriately)."
2. "The teacher judges students classroom behaviour is not within tolerance (judges that students are either not understanding the lesson or perhaps are inappropriately disruptive) but there are no alternative strategies in teachers behavioural repertoire."
3. "The same as above but the teacher has alternative strategies of behaviours available in the teaching repertoire and decides not to employ them."
4. "As above but alternative strategies are in teachers repertoire and teacher decides to employ one of them."



**Figure 2 Peterson and Clark's Model of Teachers' Interactive Decision Making (1978. p. 274)**

The alternative pathways through the model are shown below:

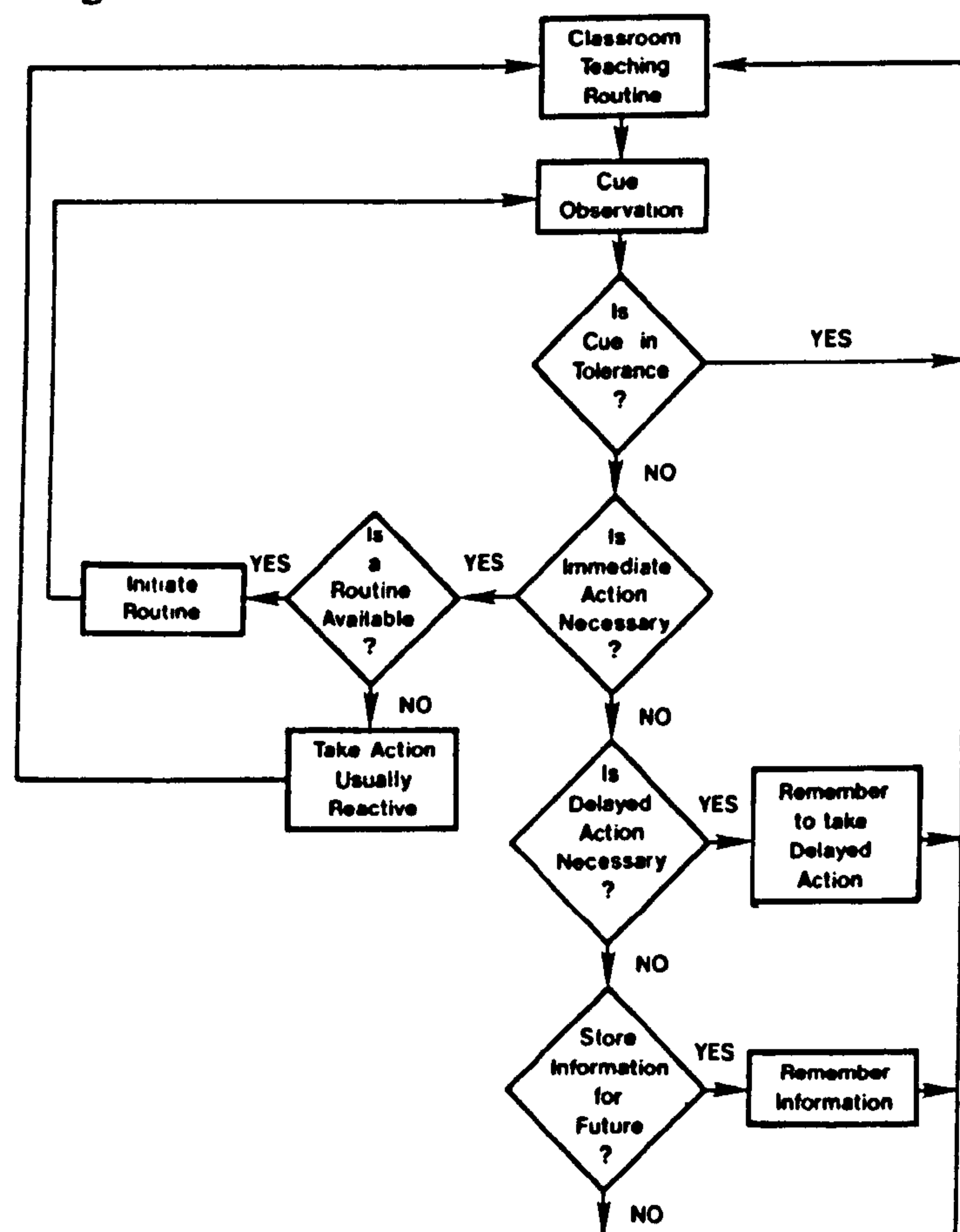
<b>Decision points.</b>	<b>Path 1.</b>	<b>Path 2.</b>	<b>Path 3.</b>	<b>Path 4.</b>
Student behaviour within tolerance?	Yes	No	No	No
Alternative available?	---	No	Yes	Yes
Behave differently?	---	---	No	Yes

Peterson and Clark reported that, in their study of 12 teachers over 3 days of teaching, the average use of path 1 ranged from 61% to 71%. They interpret these findings on the basis that teachers tend to conduct "business as usual" unless their flow of teaching is interrupted. One teacher reported "The only time I think of alternative strategies is when something startling happens."

In Peterson and Clark's study, decisions involving alternatives were reported in 20% - 30% of the cases. This finding is consistent with Marland's findings for interactive decisions and deliberate acts which he reported as 44%. The balance of decisions in Marland's study were almost entirely related to teacher's perceptions of student performance and this is consistent with Peterson and Clark's findings of teachers moving along paths 1 and 2 of their model.

Both of these studies may be summarised as suggesting that one-third of teachers' continuing or changing behaviour results from conscious decision making which involves consideration of alternatives, and that the remainder of the teachers' behaviour is the consequence of decisions made outwith their awareness.

Shavelson and Stern (1981) proposed a model based on the work of Joyce (1978 - 1979), Peterson and Clark (1978), Shavelson (1976), and Snow (1972). This model is illustrated in Figure 3 below.



**Figure 3 Shavelson and Stern's Model of Teachers Interactive Decision Making (1981. p. 275 )**

## **(vi) Summary of Models of Teachers' Interactive Decision Making**

Shavelson and Stern's model has its first three elements in common with those of Peterson and Clark's model. The paths available if the answer to the fourth element is "yes" are also common with Peterson and Clark's model. The distinguishing feature of Shavelson and Stern's model is the nature of the paths resulting from answering the fourth element "no". In both models, the antecedents of the decisions "yes" or "no" at each decision point are an individual teacher's "judgments" which need not necessarily involve conscious consideration of alternatives.

Following Shavelson and Stern's model along the path of "yes" from the question "Is delayed action necessary?" implies that the teacher "intends" to take action at some later point. Such an intention is a decision which may or may not be acted upon.

In considering decision Point 2 of the model, it is at least theoretically possible that an alternative will exist. There will always be the alternative, for example, of stopping teaching, walking out of the classroom or dismissing the students. These may not be considered as "an alternative teaching strategy in the teacher's memory" but are nevertheless options which teachers could, in practice, decide to take. It would seem therefore that the decision to move along path 2 may be taken for reasons other than merely not having "an alternative teaching strategy in the teacher's memory."

Both of the above models have an instant appeal because they are simple and portray teachers as rational thinkers, but they have the danger that if they are used as the basis for investigating teachers' decision making, the investigator may be led to recognise and record only information which verifies the models. This is a phenomenon which has been found in all research which is designed for verification purposes. See Popper (1959,1968,1980).

In both Peterson and Clark's and Shavelson and Stern's models, teachers interactive decisions are initiated in response to "cues", and their judgment as to whether or not the cues indicate behaviour as being within or outwith tolerances. Both of these models are

designed as algorithms, and are analogous to a model of a heating system with an automatic control unit, the water in the system may be likened to the students behaviour, and a thermostat likened to the teachers' behaviour. In the case of the heating system, the cue to the thermostat to take action or not to take action is preprogrammed and objective, the response to the cue is consistent and predictable (within the limits of the accuracy of the mechanisms). The cue and subsequent response are clearly deterministic as "cause" and "effect", and all thermostats will respond to the cues in an identical manner.

The contexts and circumstances within which teaching and learning is situated are both complex and dynamic; teachers' behaviour therefore cannot be explained as a simple deterministic response to the single variable of students' behaviour, for example, behaviour being deemed within or outwith tolerance.

The teacher is likely to be concerned with a number of different aspects of the lesson and a wide range of variables. It is likely therefore that a "cue" may be missed, resulting in a continuation of behaviour in circumstances which required a change in behaviour. In such a situation, one cannot say that a decision was made. For example if a car driver misses the cue of a road sign, and continues past his/her intended exit, it cannot be said that the driver made a "decision" to continue past the exit. If the driver misses the cue of brake lights on the vehicle being followed and consequently hits this vehicle, such action cannot be conceptualised as a "decision" to crash the car. It would seem reasonable therefore to argue that path 1 in the interactive decision models above is as likely to be the result of a "non-decision" as a "decision not to change behaviour." Indeed, this is the very point made by the teacher quoted by Peterson and Clark in their study. "The only time I think of alternative strategies is when something startling happens." (The concept non-decision will be investigated later in the study.)

Reviewing the Peterson and Clark (1978) and Shavelson and Stern (1981) models of interactive decision making, Clark and Peterson (1986) suggest that "a model of teacher interactive decision making should reflect the findings that the majority of teachers reported interactive decisions are preceded by factors other than judgments made about the student. These factors might include judgments about the environment, the teacher's

state of mind or the appropriateness of a particular teaching strategy.” (p. 277) Shavelson, Atwood and Borko (1977) also support the conclusion that there are other factors in addition to responses to student behaviour which are antecedents of teachers interactive decisions.

A major limitation of the models reviewed in this section is that they account only for teachers decisions which are direct responses to student behaviour. In Marland’s study, this kind of decision response accounted for 44% of teachers’ interactive decisions. Wodlinger reports 49%, while, Foggerty *et al* suggest 64%. MacKay and Marland (1978) and Lowyck (1980) reported teachers’ interactive decision occurring less frequently than the investigators quoted above. Clark and Peterson suggest that this apparent discrepancy may have arisen because some researchers such as Peterson and Clark (1978) “suggested that teachers’ decision making during interactive teaching involves teachers considering two or more alternative courses of action when they observed that the lesson was not going well.” (p. 274)

The findings of studies conducted by Fogarty, Wang and Creek (1982), Morine and Vallance (1975), Wodlinger (1980) and those by Marland (1977), combining his concepts of interactive decisions and deliberate acts and Shroyer (1981), including her concept of elective actions, show a remarkable consistency in reporting the frequency of interactive decisions of teachers, such decisions being made approximately once in every two minutes of interactive teaching. These findings suggest that classrooms are highly dynamic and that the demands upon the teacher’s decision making abilities are intensive and are supported by studies of classroom interactions using observational techniques and statistical analysis, such as those developed by Flanders (1970).

#### **(vii) Summary and Conclusions of Studies of Teachers’ Decision Making**

From the studies of teachers’ planning it can be inferred that individual decision making is influenced by experience, from which the decision maker has built a body of knowledge and expertise which informs their anticipations of the future.

It is possible that a number of teachers' planning decisions may take the form of Calderhead's "routine" decisions, while others may take the form of Watkins' "logical" decisions, which are taken for granted in the sense of Audley's observation that "minds often come already made up." This suggests that not all decisions are the consequence of conscious processing of information, but that once made the product or outcome of the decision could, if provoked through reflection, be brought into awareness. Teachers may also, in the process of planning, consciously consider, as in Calderhead's "reflective decisions" the nature and/or relationships of the products of decisions already made.

The "imaging" of future events conveys the impression of a more holistic approach to planning, rather than a prescribed, analytical, sequenced approach. Essentially, teachers' planning decisions appear to be informed by their knowledge of past events gained through reflection on their experiences, and influenced by their expectations (anticipations) of how classroom activities and routines are likely to unfold, by taking account of the subject matter to be taught and their perceptions of the attributes of the students.

### **Teachers' Interactive Decision Making**

What the literature review on interactive decision making suggests is that an interactive decision may be seen as the outcome of a process of decision making which involves a number of sub-decisions. These sub-decisions are in themselves not interactive decisions, which suggest that there are at least two different types of decision. (This observation is investigated later in the study and gives rise to the development of a typology of decisions.)

Though investigations of the process of the sub-conscious are beyond the scope of an educational enquiry it is not unrealistic in such an enquiry to speculate upon the part played by the sub-conscious in the process of individual decision making. The references within the research to teachers employing "routines" of teaching suggest that these routines have been internalised to the extent that they can be operationalised without a



great deal of conscious thought. If they did involve conscious thought at every stage they would by definition, cease to be routines; the characteristic of a routine whether physical or mental is that it requires minimum conscious thought.

The findings of studies of teachers' inter-active decision making suggest that teachers are attempting to make up their minds about what action to take in response to their interpretation of students' behaviour. Teachers' interactive decisions appear to be influenced by their preactive (planning) decisions, their knowledge and experience as teachers, their predictions and anticipations of the likely effects of their interactive decisions on future events.

### **Models of decision making**

Models of decision making, whether purporting to be prescriptive or descriptive, appear to share two common weaknesses. The first weakness would seem to be that the models suggest that the process of decision making is linear and may be represented as a series of steps from identify problem - to make decision, or as an algorithm in which each decision point is dichotomous. The second weakness is that decision is limited to conscious decisions which are operationalised in behaviour. Models of teachers' interactive decision making emphasise teachers' "judgments" of the classroom situation and suggest that teachers' decisions are motivated by a desire to maintain student activities within predetermined limits. Within the literature many of the decisions teachers make are reported to relate to student behaviour which suggests that it is through interpretation of students' behaviour that teachers make decisions about their own behaviour. This discounts the possibility of teachers making proactive decisions. Those who propose these models have recognised these limitations and have therefore not claimed that the models are definitive.

### **Conceptualising "Decision"**

Any attempt to describe the process of decision making from research reports is hindered by the lack of an acceptable common definition of decision. In defining decision

researchers have pre-empted the process and have appeared to be reluctant to take account of teachers' decisions which fall outside the researcher's definition, and have tended to discount teachers' decisions which are outwith the awareness of the teacher.

The conclusions drawn from the review of studies of teachers' decision making are that:

- \* decision making, in practice, involves inter-relating a number of decisions before arriving at a "final" decision;
- \* in the practice of decision making, it appears that the individual's "mind set", evolved from their experience, influences the decisions made;
- \* individuals' decision making cannot be explained as a process of "conscious consideration of alternatives" in that some decisions appear to be arrived at outwith the conscious awareness of the decision maker;
- \* in making decisions teachers appear to relate past experiences to their anticipation of future events;
- \* interactive decision making appears to be a balance of "backward looking" and "forward looking" perspectives;
- \* postactive decision making appears to be predominantly "backward looking";
- \* from a pragmatic point of view, the furtherance of understanding of individual decision making is likely to be hindered if the process of decision making is limited only to the study of decisions which teachers are capable of articulating.

If decision is defined *a priori*, then studies of decision making will tend to focus on collection of data which will endorse the preconceived definition, and there is a danger that interpretation of data may be contaminated by the researchers' expectations.

### **(viii) Revisiting the Operational Definition of Decision**

In Section 4 (vi) a tentative definition of decision was formulated which proved to be compatible with those definitions and models of decision making reviewed up to this point.

For example, in terms of the Peterson and Clark model, “Cue level within tolerance” implies the acceptance of the proposition that it is (“Yes”) or the proposition that it is not (“No”). In following path “Yes”, to “continue as before” implies the acceptance of the proposition “There is no need to change my behaviour.” In following the path “No” to “Alternatives available” implies there is a need to change behaviour. From here, following “Yes” implies acceptance of the proposition “I can change my behaviour.” Following “No” implies acceptance of the proposition “I have no alternative strategy.” In continuing to follow this path to “Continue” implies the acceptance of the proposition “I must continue.” etc. What is shown in the above examples is that all of the decision points in Peterson’s and Clark’s model can readily be represented as “propositions” and that the paths followed in the model are identical to those which would have resulted by the teacher’s acceptance or rejection of the appropriate propositions as outlined above.

It is important to note, that in the application of the operational definition of decision proposed in the study, the acceptance or rejection of a proposition need not be based on “fact” or “objectivity.” It is sufficient that the decision maker “accepts” the proposition. If the teacher at decision point 2, for example, believes there are no alternatives available, then as far as he/she is concerned that proposition has been accepted, and no decision resulting in a change of behaviour is taken. It is rational in such circumstances for the teacher to “decide” to continue, implying the acceptance of a proposition such as “I must continue,” “I will continue,.” “I ought to continue.” Clearly, if objective circumstances do not indicate the **possibility** of an alternative proposition, no decision is possible.

Extending this application to all of the other studies reviewed above, it was possible to interpret all the alternative definitions found in the literature in terms of the acceptance/ non-acceptance of propositions.

In summary, the operational definition was found **“fit for purpose”** as an instrument of discrimination which could, in the format proposed in Section 4, be employed with some confidence in the later stages of this study. The studies summarised in this section, concerned in the main with the description and analysis of teachers’ decision making, necessarily assume a range of definitions of decision, whether explicitly or, in some cases implicitly. The operational definition of decision was reviewed for compatibility with all of these further definitions or implicit meanings of decision, and found to function satisfactorily in that respect.

## **SECTION 6 METHODOLOGY AND PROTOCOLS**

### **(i) Brief background and rationale**

The selection of an overall approach and its substructure of appropriate techniques was largely determined by the nature of the central research question (see below), and how an answer or answers might be arrived at.

One method, in principle, by which the question could be answered with considerable economy of effort and which would preclude the necessity for much of the present project, was to identify and apply a preexisting model. Such a model need not be based upon the contexts of this study, but would merely require to be properly and adequately applicable in these contexts.

For this reason, a wide-ranging literature search was instituted which drew upon many related programme areas and sources, and continued as the study itself progressed. However, although the review of the literature made available much interesting and relevant material and useful concepts and constructs, no generally applicable, transferable model was discovered. This deficiency was, in large part, due to conceptual problems in existing treatments of decision theory and decision making.

Therefore, in order to address the central research question a study such as the present one would need to be undertaken, to attempt the development of a workable model. A key requirement was to devise a methodology and instruments which would be applied to appropriate preexisting sources of data available to the researcher.

The chosen methodology would need to be applicable to the identified and available sources of data and to be potentially capable of yielding the new categories, relationships or hypotheses which might be assembled into a new model structure.

A major prerequisite for conducting the research was the availability of logically consistent, generally applicable definitions of key concepts, crucially a workable

definition of the concept “decision”. In the absence of this, little or no progress could realistically be made towards achieving the general objective of the present study; indeed, it was the lack of such an agreed, operative definition which seemed to have hampered the development of effective models in prior studies concerned with this research programme.

The process of the review of sources in the literature did, in the end, allow the researcher to derive a definition of “decision” which was operative in the sense that it could be tested before adoption for use as part of the research instrumentation.

Furthermore, since, for the purposes of the study, decisions in terms of teachers’ activities could now reliably be recognised, it seemed entirely appropriate for the unit of analysis of the research project to be the “decision”.

To summarise, this piece of research was not designed to proceed by testing existing theoretical models by applying data from new contexts: as has been stated, such models do not exist. For this and other fundamental methodological reasons, the most appealing, suitable and effective approach was that of “grounded theory”, integral to which was the potential generation of fresh hypotheses which arise from the data from an of empirical setting. The researcher, by using this approach identifies new, often unexpected concepts, which may be structured into a novel model.

In this research ideas about “grounded theory” were drawn from the work of Glaser and Strauss (1969), leading proponents of this approach to social science research methodology, and more recently Cobin and Strauss (1990), and Gerson (1991).

The approach is critical to the ways in which the authors perceived much social science research to have been carried out (and in which, to some extent, may still be carried out), i.e. that researchers seek mainly to test preexisting hypotheses and theories by the application of current data. This has the obvious advantage of validating such theory, but the disadvantage of not promoting the emergence of fresh hypotheses or generating new theory.

Glaser and Strauss proposed an alternative theoretical approach and set of procedures for consideration and use by researchers in such areas. The following brief extracts from their work and comments upon them influenced the researchers thinking in the present study.

Glaser and Strauss argue that “methods of social research have focused mainly on how to verify theories”, resulting in researchers paying less attention to the discovery of those new concepts and hypotheses which are relevant to the area. They contend that “in social research, generating theory goes hand-in-hand with verifying it, but many sociologists have been directed from this truism in their zeal to test either existing theories, or a theory that they have barely started to generate”. (pp. 1-2)

Theory in the social sciences is seen as “a strategy for handling data in research, providing modes of conceptualisation for describing and explaining. The theory should provide clear enough categories and hypotheses so that crucial ones can be verified in present and future research; they must be clear enough to be readily operationalised in quantitative studies when these are appropriate. The theory must also be readily understandable to sociologists of any viewpoint, to students and significant laymen.”  
(p. 3)

The latter point is of particular relevance to the present study, in that a major aim is to provide teachers, teacher educators and others with a framework of theory which might help them in their development as “reflective practitioners” in their own fields of activity.

Glaser and Strauss admit the possibility that “certain ideas, or even models, can come from sources other than the data” (p. 6) but warn that such sources must be brought into relation with the data, to avoid mismatches between theory and the empirical world.

The authors concede that the development of new theory can arise from existing theories: “our position, we hasten to add, does not at all imply that the generation of new theory should proceed in isolation from existing *grounded* theory (p. 6) (present author’s italics).

The author considers unhelpful the restriction of relevant theoretical sources to those of “grounded theory,” while accepting the general principles of the Glaser and Strauss approach to theorising in the area of social science. An inductive method should permit the accumulated data to generate new categories and hypotheses towards the development of a new model, while that development may equally well be informed by existing theories and models.

Starting from the approach to theorising, Glaser and Strauss go on to propose a series of procedures or principles which are recommended to researchers:

- \* new categories, or concepts, should be allowed to emerge from the data accumulated as the research process continues;
- \* data should not be cramped or forced into preexisting categories;
- \* a tight focus should be kept upon the generation and recognition of those new hypotheses which are susceptible to testing by quantitative methods;
- \* the research should be carried on by a process of constant comparative analysis.

These procedures have been accepted as a useful guide by the author of the present study.

At the level of techniques, the **methods** employed by the researcher to collect data corresponded to the three phases in which the study was carried out:

### **Phase I (Method - Unstructured Interviews)**

In this initial stage of data accumulation, the protocol was that of unstructured interviewing. The teacher-respondents’ statements about decisions they had taken in relation to their professional belief-systems, ideologies and institutional expectations were audio and video recorded, and transcribed for subsequent analysis.



## **Phase II (Method - Survey Questionnaire)**

In this phase, data related to the same topic areas as in Phase I were collected by the protocol of survey questionnaire. For detail of questionnaire format see Appendix A.

## **Phase III (Method - Participative Observation Case Studies )**

In the final phase, the protocol was that of the individual case study, carried out by participant observation. All observations of field-work visits, each of which was an individual case study, were video recorded and transcribed.

### **(ii) Subjects of the Study**

A “convenience sample” consisting of one annual intake of teachers to a course of F.E. teacher education comprised the subjects of the study. This cohort totalled 150. Analysis of the data derived from questionnaire returns showed that, of the 124 who provided personal details, 55 (43.9%) were women 69 (56.1%) were men. This compares with the corresponding percentages for all teachers employed in the Scottish F.E. sector, of 31% women and 69 % men ( SOED 1991).

From the total cohort, three samples of subjects were selected, for the purposes of the three phases of the study, as described above.

### **Phase I**

The subject sample for this initial phase was made up of two tutorial groups of teachers, totalling 24. A random selection of 9 students out of 18 was made from the author’s own tutorial group. This group was made up entirely of male teachers drawn from one broad subject specialist area. The second group, selected at random from a range of tutorial groups consisted of 15 teachers, 11 female and 4 male, drawn from a range of subject specialisms. (for details see page 84)

These two groups together proved sufficient to satisfy the major criterion of “grounded theory”: that those categories emerging during this initial phase of the study should be saturated.

## **Phase II**

The subject sample for this phase was made up of the entire convenience sample, i.e. 150 teachers, mixed male and female as quantified above, and representing a wide range of the subject specialisms found in the Scottish Further Education sector.

## **Phase III**

The subject sample for this phase was made up of the 9 members of the first group who were involved as interview/responders in Phase I.

### **(iii) Interview protocols ( phase I and III )**

Hitchcock and Hughes (1981) observe that “the aim of the unstructured interview is to provide for a greater and freer flow of information between the researcher and the subject” (when compared to a structured interview) but point out that “even so, the researcher does not totally abandon any pre-interview work. It is just as important in using the unstructured interview as it is when using the structured interview, to consider beforehand the nature of the encounter and kinds of general areas the researcher wishes to explore. Usually, the researcher will work to a rough checklist, or areas she wants to explore in the interview but will be prepared to let the interviewee ‘travel’ wherever they like.” (p. 87)

With reference to Hitchcock’s and Hughes’ observations, the “nature of the encounter” envisaged by the researcher was to encourage teachers to talk informally about their work and experiences within the F.E. sector of education in whatever way they wished. The “kinds of general areas” to be explored were teachers’ thoughts and feelings related to their experience of working within Scottish Further Education provision.

## **Planning the interview agenda**

Prior to conducting the interview with the subject F.E. teachers, a series of pilot interviews was conducted with 5 teacher educators of F.E. teachers. Each of these educators was experienced in delivering the curriculum for F.E. teacher training during which they had visited, observed and discussed trainee teachers' performances related to all aspects of their work. Of the 5 pilot interviewees, 2 were men and 3 were women; their areas of subject expertise ranged over: technology; business studies; psychology; general studies; nursing and caring; pure and applied science.

The aims of the pilot studies were:

- ✱ to isolate potential topic areas for inclusion in the main study;
- ✱ to evaluate the administration of the interviews by the researcher.

Analysis of these pilot interviews enabled a number of topic areas to be identified, in each of which teachers would be involved in decision making. These areas formed brief, initial checklist to be employed within the main study. The checklist turned out to consist of three major areas, "The National Curriculum", "incorporation of colleges" and "the work of the F.E. teacher."

Evaluation of the conduct of interviews confirmed their likely efficacy if employed as a technique during the conduct of the main study.

## **Selection of interviewees**

Each of the prospective interviewees was approached informally during non-teaching hours and asked if they would be prepared to take part in an interview which would form part of a research project designed to discover the views and opinions of F.E. teachers with regard to the present educational provision within F.E. colleges. It was explained that the interviews would be conducted in private, all of the content would be handled in

the strictest confidence and that the findings would be recorded and analysed in such a way that no comments could be attributed to any particular individual. Other aspects of the research protocol were explained, and questions invited and answered. All of the subjects approached agreed to be interviewed.

When each subject agreed to be interviewed, a date and time was arranged. On the basis of the pilot study, one hour was allocated for each interview and, in the event, this time was found to be sufficient.

### **Interview strategy**

The interviews were conducted in an unstructured form to encourage the teachers to talk freely, openly and in a non-directed way, so that the concepts, constructs and perceptions which emerged would be those of the teachers. The intention was to elicit as rich and complete picture as possible of the conceptual framework within which teachers make decisions.

Each interview was conducted in private. Before the interview commenced, the interviewee was invited to have coffee or tea and to talk informally. The intention was to create an ambience of comfort and informality which, it was hoped, would encourage the subjects to relax and talk without inhibition. During this period an opportunity was taken of thanking each interviewee for agreeing to take part in the study.

It was explained that the researcher was interested in trying to understand the educational process at present being operated within colleges throughout Scotland from a teacher's point of view. It was emphasised that what the researcher was aiming to do was to collect teacher's personal views and opinions and to bring all of these individual perspectives together in such a way as to be able to describe the present educational provision as seen through the eyes of teachers. This aim was reinforced by the researcher explaining that, in his opinion, much of what is written and published about the present educational system has emerged from people who lack firsthand, personal experience of teaching within the present system; a description of how teachers perceive

the educational process would help to redress the balance. The interview, then, was an opportunity for the subject to express his/her personal opinions and thoughts.

Teachers talked at great length about a wide range of aspects of educational provision. Some teachers were more articulate than others, but the reflective listening techniques proved to be effective in encouraging the less articulate to think about what they were about to say and to formulate their ideas in their own words. Because the interviews were unstructured, the concepts and expressions used by individual teachers, and the sequence in which they talked about various aspects of educational provision, did not follow any common sequence or structure. Some teachers talked about an aspect of educational provision, moved on to a second or third aspect, then returned to something they had mentioned earlier. Some repeated what they had talked about but embellished or changed the emphasis of what they had said.

#### **(iv) Analysis of interview transcripts**

The purpose of the analysis was to categorise systematically teachers' statements according to which aspects of educational provision they focused upon when talking about their professional lives. This systematic categorisation of teachers' statements was intended to form the basis of a substantive theory of teachers' decision making from which a formal theory of decision making could later be extrapolated.

The rationale for developing and employing such a system has been clearly articulated by Marton (1988) in his description of the work of phenomenographers.

“The botanist (in a study of previously unknown flora and fauna on a remote island) finds new species and, therefore, must construct new categories. Only then can the botanist determine how these new categories fit into the whole system of species classification. In the sense of our fictional botanist and the work of the phenomenographer are related. Just as the botanist finds and classifies undiscovered species of plants, the phenomenographer must discover and classify unspecified ways in which

people talk about certain aspects of reality. Because the different forms of thought are usually described in terms of categories, categories and organised systems of categories are the most important component of phenomenographic research. Within the framework we look for the most essential and distinctive structural aspects of the relation between the individual and the phenomenon. Leaving other aspects aside, we end up with categories of description which, though originated from a contextual understanding are decontextualised and hence may prove useful in contexts other than the one being studied. It is the goal of phenomenography to discover the structural framework within which various categories of understanding exist. such structures (a complex of categories of descriptions) should prove useful in understanding other people's understanding ..... just as the botanist finds and classifies previously undiscovered species of plants, the phenomenographer must discover and classify unspecified ways in which people think about certain aspects of reality." (p. 147)

The strategy adopted in the analysis of interview transcripts was to read and re-read each interview in order to gain an overview of the content of each report. From these readings it was possible to identify "aspects" or subject areas about which teachers talked. The first stage of analysis was to use these aspects as organising categories, and following the technique suggested by Lofland and Lofland (1984: p. 134) to extract from the data all comments which were related to each of these aspects, and to arrange them in categories according to the aspect or subject area to which they referred. In this way, the subject area about which teachers talked formed the basis of the classification system for the data. When all of the data had been classified as belonging to one of these categories, each statement was re-examined to determine whether it should remain in this category or could be more appropriately assigned to another category, or, indeed, if an additional category should be established. In this way, the number of categories which emerged from the analysis was dictated by the nature and variety of the data. The allocation of comments and statements to these categories proved to be very time-consuming and exhaustive and was conducted over a number of weeks. As this process proceeded, each

subsequent reappraisal of the comments and categories resulted in fewer and fewer pieces of data being re-assigned, until the point was reached at which no further re-classification appeared to be necessary in order to account for all of the data. This process resulted in the researcher having a high degree of confidence in the final categories which emerged.

The classification of data in this way accords with the principle of grounded theory, in that the categories emerge from the data rather than the data being forced into preconceived categories. Though the categories may be said to emerge from the data, the data *per se* do not constitute categories. Categories are “invented” by the researcher and, consequently, it cannot be claimed that these categories were the only way in which the data could have been classified.

It may be argued, therefore, that this technique of analysis is open to deconstructive criticisms by those who subscribe to postmodernism, or those who argue that research studies should be exactly and precisely re-applicable.

In addressing such criticisms, Marton (1988) points out :

“The original findings of the categories of description is a form of discovery and discoveries do not have to be capable of replication. On the other and, once the categories have been found, it must be possible to reach a high degree of inter-subjective agreement concerning their presence, or absence, if other researchers are to be able to use them. Structurally, the distinction I draw here is similar to that between inventing an experiment and carrying it out. Nobody would require different researchers independently to invent the same experiment. Once it has been invented, however, it should be carried out with similar results even in different places by different researchers.” (p. 148).

### **Substance of Teachers’ Decisions**

Typical categories which emerged from the analysis included “self”, “students”, “college

managers”, “inter-personal relationships”, “communications”. “curriculum”, “role of the teacher”, “resources” and “college facilities” (detailed descriptions of these categories are presented later in the study).

The substance of each of the categories which emerged from the content analysis of teachers’ statements was re-examined to discover if and how these statements were related to decision making.

Each statement was examined with reference to the operational definition of decision adopted within the study. This examination revealed that a few statements such as “the subject I teach is mathematics”, “most of my students are aged 20-40 years old”, could be considered as “categoricals”. (For an explanation of the concept “Categoricals” see Quine 1990). The essential nature of categoricals is that they are statements of “facts” (as “known” by the teacher). As such they are capable of verification. Even if such factual statements are inaccurate, such inaccuracies do not detract from their status as categoricals.

The majority of teachers’ statements were products of decision making. Such statements were capable of being re-presented as propositions about which the teacher had made up his/her mind to accept. These statements were not categoricals in that they did not represent statements of “fact”, but rather the teacher’s interpretations, or evaluations, of information or data. Examples of such decisions were “my students are highly motivated”, “my students are interested in their work”, “a non-graded system of assessment de-motivates students”.

These latter statements have corollaries, and each teacher in making such statements has consciously, or sub-consciously, “decided” to subscribe to the acceptance of the proposition contained within the statements. Comparative analysis of the substance of teachers’ statements within each categorised aspect substantiated the distinction between categoricals and decisions in that the latter statements quoted above, and the propositions which follow from them were not subscribed to by all of the teachers, e.g. “my students are not highly motivated”. “my students are not interested in their work”, “a non-graded



system of assessment does not de-motivate students.”

At the end of the analysis all of the data were re-examined to check if the emergent categories represented the data in a meaningful and logical manner, and that the relevant criteria identified by Glaser and Strauss for the development of grounded theory had been satisfied.

### **Typology of Decisions**

Having separated decisions from categoricals, and having systematically categorised the substance of teachers' decisions according to the aspects upon which they focused, the data was re-examined through comparative analysis in order to establish the different ways in which teachers construed educational provision. This analysis led to the recognition that the decisions which teachers make in construing educational provision, though substantially different one from another, appeared to have some consistency within each teacher's report in how one decision related to other decisions. Further analysis revealed that different decisions appeared to serve different purposes for the decision maker.

Some decisions were used by teachers to categorise data, others to interpret data and others to evaluate data. This recognition formed the basis for the subsequent development of a typology of decisions which provided an insight not only into what aspects of educational provision teachers focused upon, but also the way in which they construed these aspects. It then became possible to develop a categorisation of decisions based on the **purpose** the decision served, separately from the substance or content of decisions, i.e. those aspects of educational provision teachers focused upon.

At this stage of the study, the embryo of a typology of decisions began to develop, and throughout the later stages of the investigation, this typology was continuously verified and/or amended and refined. Some theoretical concepts of decision making were developed and an outline structure of a decision making model was developed.

## **(v) Questionnaire Protocols (Phase II )**

In order to test the extent to which the categories identified from analyses of interview transcripts were shared by other teachers, a survey questionnaire was designed and piloted with a selective sample of 4 teacher educators. The questionnaire was subsequently refined before being administered to the convenience sample of 150 F.E. teachers.

### **Design of questionnaire**

All of the constructs reported by teachers during the interviews were extracted from the transcripts. Some teachers had used constructs in a positive way, while others had used the same constructs in a negative way. In designing the questionnaire, all of the constructs were presented as positive statements to avoid leading the respondents.

While considering how most effectively to distribute the questionnaire in order to maximise the rate of response, an opportunity arose of which the researcher took advantage. A lecture, to be attended by all TQFE course members finished early leaving half an hour of unscheduled time.

The programme director agreed that this time could be used to administer the questionnaire, provided it was made clear to the teacher trainees that this did not constitute part of the teaching programme, and that participation in completing the questionnaire was voluntary. This proved to be an effective strategy in respect of the response rate, which was 145 usable responses out of a possible 150.

Two teachers opted not to take part in the survey and left the lecture theatre. Of the 148 completed the questionnaires, 3 were subsequently found to be mutilated or substantially incomplete and were discarded prior to analysis. The time taken to complete the questionnaire was longer than anticipated, and resulted in the teachers spending most of their coffee break completing this task. This was considered significant in that it reflects the willingness of teachers to share their perceptions with others, and confirmed the view

(formulated during the interview process) that F.E. teachers welcome opportunities to express their opinions.

#### **(vi) Analysis of Survey Data**

The survey data were analysed using the “Statistical Package for the Social Sciences” (SPSS) computer programme. For comparative purposes the subjects of the survey were divided into 4 sub-groups according to the broad subject areas in which they specialised. Statistical analysis later demonstrated significant differences between the sub-groups responses to all the questionnaire items. Statistical analysis of the subjects divided by gender demonstrated no significant differences in responses.

#### **(vii) Case Studies Protocol (Phase III)**

The purpose of this phase of the study was twofold:

- \* to explore two further, practical, classroom-related areas of teachers’ decision making, guided by two key questions:  
“What decisions do teachers make prior to delivering a lesson to students?”  
“What decisions do teachers make following the delivery of a lesson?”
- \* to test further the developing typology of decisions as derived from Phase I and Phase II, and to refine the typology in the light of Phase III data.

These questions were addressed by the protocol of unstructured interviews (see above, in relation of Phase I methods).

#### **(viii) Analysis of Case Study Data**

The content of all interviews relating to both questions was recorded and transcribed for subsequent analysis. The method of analysis was the same as that used in Phase I. In each of the 9 case studies, decision statements elicited by Question 1 were recorded

numerically in sequence of occurrence. These statements were then categorised using two sets of criteria:

- (a) the typology of decisions as developed during the study up to this stage;
- (b) the subject matter (substance, content) to which the decision statements were related.

After categorisation in these two ways, no decision statements were perceived to be independent of one another, but appeared rather to be reciprocally linked.

### **(ix) Summary and Conclusions**

In accordance with the principle of grounded theory as explained and annotated above, the fundamental and general approach adopted throughout the process of the study was one of constant comparative analysis, iteratively applied to the data flowing from the subjects of the research, and to the ongoing flow of interim findings.

In particular, the data and tentative conclusions derived from the more specific methodological approaches (quantitative: Phase II; qualitative: Phases I, III) were subjected to the discipline of ongoing comparative analysis.

These methodological protocols were applied to five areas of investigation in each of which key findings resulted. These areas and the corresponding findings are outlined below. It is important to note, however, that largely due to the nature of the study and the general methodological approach which was considered appropriate to adopt, these areas are not mutually exclusive nor sequential in a linear functional sense.

#### **Areas of Investigation.**

1. The theoretical nature of the concept “decision”.

This exploration led to the formulation of an operational, generally applicable definition of decision.

2. The **substance** of teachers' decisions.

The main outcome here was a more detailed knowledge and categorisation of the teachers' agenda.

3. The **purposes** of teachers' decisions.

This investigation facilitated the development of a typology of decisions, which was an indispensable tool for application later in the study.

4. The **contexts** of decision making.

Emerging from this area were the development and description of two decision making contexts: internal and external.

5. The **processes** of decision making.

The analysis of a number of process dimensions (for example, the sequence of decisions selected by teachers) allowed the development of a descriptive model of teachers' decision making practice. (see below, page 256).

## **SECTION 7 ANALYSES OF INTERVIEW TRANSCRIPTS**

### **(i) Brief Introduction and Rationale**

The overall aims of this core section of the study were twofold: to acquire a wider and deeper understanding of, firstly, the nature of teachers' decisions and, secondly, the process by which teachers' decisions are arrived at. In very simple terms, these aims relate to the "what" and the "how" of decision making respectively.

A proximate objective was to collect, process and analyse data in terms of content-related categories. The data consisted of the unedited statements of teachers in the Scottish Further Education sector, which were to be categorised by the researcher, but not interpreted by him in any way. The "teacher's voice" is thus a key feature of the study, as compared with other studies which adopt contrasting methodological approaches.

It was not an explicit objective of the study to categorise and analyse the teachers' statements in terms of the gender, age, subject-specialism nor qualifications of the responders. Such analysis could, however, readily be carried out on the basis of quantitative data arising from a related, subsequent stage of the research; a statistical comparison in terms of gender was carried out, and is described and commented upon later in the study (see pp.208-213 below).

The source of data for this phase (Phase I) of the study was a convenience sample of 24 teachers who were interviewed and whose responses were fully recorded and transcribed. For details of the protocols adopted, see Section 2 (iii) above. The sample for this phase of the study was drawn from two teaching groups : the first , all male, was the researcher's own group, which could conveniently be visited in teaching practice for the purposes of phase III of the study. The second group was selected to adjust the overall gender balance and provide wider ranges in respect of age and subject specialisms. The transcripts of the total number of respondents were allocated at random a number between 1 and 24 : these are the numbers assigned to the anonymous personal data contained in the list which follows.

	Gender	Age	Teaching experience in years	Qualifications	Subject specialism
1	Female	34	1	BA HNC	Commerce
2	Female	44	7	FCSD	Interior design
3	Female	39	4	HND	Catering
4	Female	43	8	HNC ONC	Machine sewing;
5	Female	47	6	CGLI Cert.	Beauty therapy
6	Male	32	7	CGLI Adv.	Carpenter/joiner
7	Male	34	8	CGLI Adv.	Painter/decorator
8	Female	32	6	CGLI Adv.	Beauty therapy
9	Female	51	3	CGLI Adv.	Beauty therapy
10	Female	29	2	BA	Computer studies
11	Male	28	2	CGLI Adv.	Carpenter/joiner
12	Female	28	6	BA Hon.	Industrial knitting
13	Male	32	6	CGLI Adv.	Plastering
14	Male	45	8	Cert.	Agriculture
15	Male	32	3	B Sc.	Construction
16	Male	40	8	HNC	Construction
17	Male	45	4	ONC CGLI	Plumbing
18	Female	47	4	MA	Psychology/caring
19	Male	39	12	CGLI Adv.	Plumbing
20	Male	37	4	ONC HNC	Brickwork
21	Male	39	7	CGLI Adv.	Carpenter/joiner
22	Male	45	4	ONC CGLI	Plumbing
23	Female	28	3	BA Hon.	Textile design
24	Male	29	2	B Sc CGLI	Construction

In the descriptive and analytical narrative which constitutes a major part of the content of this section, a careful selection of responders (referenced by the above numbers) and extracts from their transcripts were made, with the aim of combining appropriate illustration and exemplification of key points with economy of space.

The first task of the researcher, with the instrumental aid of the operative definition of “decision” formulated in Section 4 was to identify those statements within the transcripts which represented decisions, and to distinguish them from categorical statements. Next, the raw data, generated in the form of undifferentiated decision statements, required to be organised. The process of content analysis was carried out in accordance with the methods employed by Lofland and Lofland (1984): see above, Section 6.

The process of content analysis resulted in the organisation of decisions into a small number of organising categories, each of which was divisible into a number of sub-categories. The outcome of the content analysis addressed the “what” aim of the study, in that it allowed a wider and deeper understanding of decision making as described by practitioners themselves, in a particular professional context, unaffected by the views and values of the researcher.

As a result of reviewing all the transcript evidence, it became clear that an approach to the aim of a deeper understanding of the issue of “how” the decision making process operated, in the context of these practitioners, might be made by attempting a re-categorisation of the data, but ignoring content of statements as the categorising principle.

By this means, progress was able to be made in establishing a typology of decisions, in which decisions which demonstrated key affinities were grouped in a small number of types. (for a summary of types of decisions see page 95)

Although distinct in principle, the two types of analysis have commonality in that they are derived from identical data, and also because they were not carried out separately nor in sequence. Also, by the nature of the subject matter of the study, and consequently of the data and the methodology of its collection, the analytical process could not be a purely linear, “logical” one. Insight was also gained by reiterated examination of the same extensive, complex data from different perspectives.



## **(ii) Teachers' Perceptions of the Role of "Teacher"**

When asked to talk about their work, subjects of the study initially focused upon "themselves" in relation to the "task of teaching". Some of the subjects referred to themselves specifically as a teacher, or a lecturer or an instructor. The task of teaching was construed as developing students' personal attributes and characteristics and/or teaching specific subject matter at a particular academic level.

"Well, I am a teacher in further education, my subject is Psychology. It's mostly to do with introduction to Psychology. It's only last year that SCOTVEC brought out modules on Psychology.....I developed the introductory one and I'm developing Cognitive Psychology now. I am also developing H N units, which covers mostly a taster of each different area of Psychology and brings it all together in what Psychologists do." (18)

"Currently I'm a lecturer and spend quite a lot of time teaching Computing..... my remit runs from teaching National Certificate and Higher National Certificate at 1st and 2nd grade. At the moment we also do service teaching for other departments." (16)

"Basically speaking, I'm a lecturer." (22)

Others did not use a title directly but implied that they regarded themselves as a teacher:

"I teach at Craft level and Advanced Craft level and also on ONC." (15)

"Well, I teach Aromatherapy, that is the specific subject. (9)

"My job is teaching the use of computers." (16)

or as lecturers :

“My job basically is lecturing in Building Technology at HNC level and National Certificate levels. We use National Certificate as an access to our Higher National and Diploma and I do Information Technology with them and Materials and Surveying.....I also have an input to Information Technology HD level, 1st year and I have a class in Maintenance Technology which is a 2nd year specialism course for HND 2, but most of my work at the moment is based on the National Certificate.” (24)

Others considered themselves implicitly as instructors :

“The job involves the instruction of young men mainly preparing for the Building Industry, training in brickwork.” (20)

“My job is a Painting Instructor.” (7)

### **Decision and Role Perception**

Referring to oneself as “teacher”, “lecturer” or “instructor” was considered by the researcher to be evidence of the making of a decision in that subjects were free to use whatever description they wished, and often clearly had “made up their minds” as to which title they habitually employed; the making up of one’s mind in such circumstances satisfies the operational definition of decision adopted in the study.

The significance of identifying the use of these titles as decisions was considered important in the study for it served to illustrate a number of important aspects about the nature of decision. For example :

- ✱ A decision can be recognised by an investigator without the need for the subject of the study to articulate the process of decision making.

In talking about their work, different subjects referred to themselves by specific different job titles spontaneously and, in so doing, did not give any impression of consciously considering which alternative title to use, which suggests that:

- \* Not all decisions on all occasions are conscious choices.

The decision to use one title in preference to another cannot easily be interpreted as “problem solving”, which suggests that :

- \* Not all decisions can be conceptualised, or defined, as “problem solving.”

The decision to use a particular job title, of itself, does not necessarily culminate in specific observable behaviour or action so that:

- \* Not all decisions are precursors of action.

Categorising the use of alternative job titles as a decision (which was confirmed by applying the operational definition of decision to each of the titles, so that each of the subjects could be said to subscribe to the proposition “I am a teacher”, “I am a lecturer”, “I am an instructor”), opens up the potential utilisation of the concept decision within the study beyond the range of ways in which decision is defined by other researchers, while still being compatible with their definitions.

### **(iii) Teachers’ Perspectives on Teaching**

The subjects of the study (even those who decided their appropriate title was “lecturer”), did not consider that their job was “lecturing” to students, but rather “teaching” students. The convention adopted throughout the study, therefore, was to refer to subjects of the study as teachers and also to use the prefix F.E. only where it was necessary to distinguish between subjects of the study and teachers employed in other sectors of education.

Although the work of F.E. teachers involves more than teaching, it was the role of the teacher which appeared to be uppermost in the minds of interviewees when talking about their professional lives.

From the ways in which teachers' talked about this role it appeared that they construed teaching from conceptually separate, though not mutually exclusive perspectives : subject-focussed, person-focussed, interpersonal and evaluative.

### **Subject Focussed**

Comments which suggested this perspective were those in which teachers talked about themselves as possessing expertise, knowledge and skills, and interpreted their role as the **process** of transferring these to their students.

“.....passing on the knowledge I have about Beauty Therapy to students, so that when they are qualified they can go out into industry and carry out the tasks as well as they possibly can.....to ensure the students have a good understanding.....a background knowledge in order to perform their skills.”  
(8)

“.....I would like to be able to pass on as much information to other people as I have because that is what I'm supposed to do.” (9)

“Well, I see myself as giving information about my trade as best I can to my students.” (13)

“Bringing my knowledge to help them learn and share my skills.” (12)

When interpreted from a subject perspective, effective teaching was construed by interviewees as the **outcome** or **product** of this process and was reported in terms of students' academic achievements.

“I have assessments for learning outcomes for every class. I have been taking a census of the pass rate, so I can actually compare my performance quickly in terms of pass rates.....I would like to develop that and be able to notice how, if I use different techniques, there is an improvement.” (17)

“I like to see what the students are able to do by the time they leave college.” (14)

“I like to see whether they (the students) have understood what I have been demonstrating.....whether they can repeat it..” (23)

“I think if I can teach them and they can achieve the learning outcome, then I think I must be doing a good job.” (5)

“I get job satisfaction from my students’ achievement.” (7)

### **Person Focussed**

When teachers perceived their role from a this perspective, the **process** of teaching was construed in terms of developing students’ self -esteem and levels of confidence.

“It is interesting to me to see my students developing I think it is important to build confidence in students.” ( 21)

“I help students.....I encourage them to expand and grow.” (10)

“I see a lot of my job as giving them (students) confidence.” (14)

“It is important that they understand a work routine.I am trying to encourage them to take an interest in something and to develop their concentration span .....trying to prepare them for whatever they do when they leave school.” (7)

**“I feel that we are being pushed into measuring success through results of modules and outcomes.....I feel success is more than that, it is being able to reach people and find something of relevance to them....I tend to equate that with how happy the student is in the class, if they achieve - great, if they don't gain a certificate that is not too important as long as they learn some new skills, develop some new strengths, increase personal awareness or self-esteem, I feel that is equally as important as a piece of paper.” (10)**

**The reports of teachers from a person perspective (as recorded in the samples above) appeared to be located at least in part in the affective domain (see Krathwohl 1964). The subject content of the modular curriculum, as taught by the teachers quoted above, is not aimed explicitly at developing students in the affective domain and, consequently, there are no specific assessment instruments designed to measure achievement in this domain. Some of the reports above suggest that teachers were concerned to develop students in terms of the affective domain as a precursor to teaching curricular subject matter, so that such development may be considered to be a means towards an end, while other comments suggest that teachers pursue the development of this aspect as an end in itself. The product of teaching, when viewed from a person perspective, was not articulated as explicitly as the product when viewed from a subject perspective. However, it was possible reasonably to infer from the reports that the product of teaching, when construed from a person perspective, though not objectively observably was never the less real.**

**In discussing assessment requirements for NVQ/SVQ systems, Eraut (1994) emphasises that the system focuses upon “naturally occurring products” as “concrete points of reference” in an attempt to achieve objectivity, but recognises that the assessor will inevitably require to make subjective decisions in the form of interpreting “witnesses reports,” “sampling” and “considering” evidence of how students had developed during the period of their training.**

## **Inter-personal**

Teaching seems to be conceptualised by the subjects of the study as more than imparting knowledge and skills to students, and enhancing students' self-esteem, it included enjoying interacting in meaningful ways with their students.

“I feel that as my confidence is increasing, I try and break down the barriers between me and the students.....relationships are very important, that is what makes the learning enjoyable.” (1)

“Well I treat them as adults because I think they should be adults by the time they come to our college.....I think I have quite a good relationship with them, purely informal a lot of the time, although I can lay down the law if I have to. I'm very strict about what I'm teaching you know, they have to do it as right as possible .....well, maybe it's not the right thing to say but I know the subject area and really am quite strict on the training, but I like to have good relationships with them and we have good relationships.” (5)

“I love working with students.” (11)

“Helping others to learn stimulates me.” (10)

“I like to get on with young people.” (4)

“I enjoy working with students more than the staff.” (24)

“I get to know the students very well.” (2)

Building relationships with students was construed by teachers as an important element in their success, or enjoyment, of their tasks, so that the building of relationships was considered by teachers as part of the teaching and learning process.

## **Evaluative**

In talking about their work as teachers, responders made a large number of fairly general remarks about their actual teaching of students. These comments were not, so much focussed upon subject matter nor upon their students as persons, but were introspective, more subjective and affective in nature and related to the degree of enjoyment they themselves derived from the teaching task. They are typified by such comments as:

“I enjoy it tremendously.” (7)

“I like the job, it is interesting, enjoyable..... it is nice and comfortable.....it’s like a hobby.” (4)

“Teaching is one of the best jobs there is.” (1)

“It’s a job I like, I get a lot of satisfaction out of it.” (12)

“I find it interesting, enjoyable and challenging.” (10)

“I thoroughly enjoy it, it’s challenging but at times a bit stressful.” (3)

“I enjoy teaching although it’s a lot of work.” (5)

“I enjoy it, I am happy doing it, I get a lot of personal satisfaction.” (6)

“I enjoy it, though it can be frustrating.” (1)

## **Interim Summary**

Teachers’ interpretations of the role of the teacher are inevitably uniquely different for each teacher, but their reports suggest that their interpretations may be described mainly as a combination of the extent to which they subscribe to the processes and products of



teaching from a subject-focussed perspective and/or a person-focussed perspective. Whatever combination of these perspectives teachers' reported, analysis of their reports showed that the respondents all enjoy interacting with students in teaching and learning situations.

#### **(iv) Emergence of Typology of Decisions**

As implied in the introduction to this section, the methodology adopted in carrying out the analysis of data is characteristic of the "grounded theory" approach to this type of research.

The operational definition of "decision" adopted and applied in the study was used here clearly, to distinguish initially, between those statements which represented decisions of all kinds, and those which were categorical statements in terms of Quine (1990). The definition, is comprehensive enough to permit the categorisation of subject statements as decisions over a very broad range of the content or substance of their discourse. Its application captures a greater variety of decisions, in the form of statements consisting of propositions with optional interpretations, than is possible using the definitions formulated or implied by other researchers. (see Section 5 above).

Having collected a great deal of data about teachers' decisions in the form of decision statements, it would clearly be of advantage in increasing the understanding of the process of decision making (as contrasted with merely identifying when decisions have been made) to analyse decisions and categorise them in useful ways.

Clearly, bearing in mind the general nature of the discourse, the decisions can fairly readily and usefully be categorised in broad content terms. Earlier in this Section, the researcher has presented sample statements and comments categorisable as teachers' perceptions of their role, and of their teaching approaches; below, statements are presented, categorised in terms of, for example, teachers' constructs, the curriculum, resources, management structures and functions.(see p. 98)

Repeated inspection and study of the decision statements in all of these content areas induced the perception of a kind of rough hierarchy of decisions, corresponding approximately to the levels of intellectual activity represented in the taxonomy of educational objectives in the cognitive domain (Bloom, et al, 1965). The emergent categories could also be seen in terms of their function for the individual decision maker: the culmination of what kind of conscious or subconscious process does a decision represent? The pre-decision processes may in many cases be largely internalised or subconscious.

One way of approaching this latter problem of categorisation is to construct a simple, arbitrary taxonomy of decision types, and to describe and illustrate them using decision data of the type described in the earlier part of this Section. This might subsequently be applied, and simultaneously tested, using data in other content categories, and be modified, extended or elaborated as appropriate.

The initial types were labelled **Type A, Type B, and Type C.**

#### **Summary of the types in the tentative Typology:**

**Type A** This described the least sophisticated type of decision, resulting from a process of, for example, recognition, classification or identification.

**Type B** This type was taken to include decisions which could amplify or explain decisions of Type A, or those representing more complex processes such as interpretation or comprehension.

**Type C** Here, the decision statement represents the outcome of a more complex, sophisticated process still, that of evaluation or judgement.

In the following subsections of Section 7, this tentative typology is applied, re-applied and in the process tested for continued relevance in a variety of contexts, and therefore also for potential modification and/or extension. In this way, it illustrates the dual

structure and procedure necessarily adopted throughout the Section, in line with the methodology of “grounded theory”: the sub-sections visit a series of content areas, where periodic stock is taken of the progress and utility of the tentative typological structure. This, in turn, is reflected back in the commentary upon the subjects' decision statements in ensuing content sections.

In the same way as the type A decisions made by the subjects of the study enabled them to classify, or identify, themselves as teacher, lecturer or instructor, type A decisions made by the investigator enabled the teachers' comments to be classified into four categories, namely, subject perspective (process), subject perspective (product), person perspective (process), person perspective (product). To understand what individual teachers meant by their type A decisions (in which they classified themselves as teacher, lecturer or instructor) it was necessary to analyse their comments.

The different interpretations used by individual teachers were not prescribed in any way, but were “decided” by each individual independently and freely. From the ways in which these interpretations were expressed, it might be suggested that the teachers were not consciously making decisions, and therefore, outwith an analytical investigation such as the present study, not construed as decisions. Teachers' statements related to how they interpreted “teaching” were construed as evidence of the acceptance of a proposition, and so satisfied the operational definition of decision adopted in the study. For example, the comment “passing on knowledge that I have to students” as a description of teaching, suggests the acceptance of the proposition “teaching involves passing on knowledge to students.” “I have assessments for learning outcomes for every class” suggests the acceptance of the proposition “teaching involves assessing students' performance.” “I think it is important to build confidence in students” suggests the acceptance of the proposition “teaching involves building students' confidence”.

Such decisions, (Type B), differ from Type A in that the purpose served by a Type A decision is the resolution of data in order to “classify or categorise” them, while the above decisions appear to serve the purpose of “interpreting the role the teacher” for individual subjects of the study.

The extent to which individual teachers may subscribe to views represented by certain perspectives, suggests that they have “made up their minds” about the relative value, meaning and purpose of their roles, so that their comments may be considered to be, explicitly, or implicitly, decisions they have made as to the meaning “teaching” has for them. Such decisions are concerned not with “categorising” but with “establishing meaning.” To differentiate decisions which “categorise” from those which “interpret” a Type B decision was defined as “a decision which serves to resolve how information is to be understood.”

In the case of teachers’ reports, their type B decisions served to resolve the question “What does the role of teaching mean to me ?” From the different ways in which teachers talked about this role, it is clear that each individual Type B decision was unique, although sharing some characterisations with others.

Analysis of teachers’ decision statements led to the identification of decisions which seemed to relate neither to categorisation nor interpretation but rather to an emotive or affective impulse, reflecting a desire, for example, to relate more positively to standards or to enhance their own self-esteem. Such decision statements were often explicit, but the more implicit examples were identified as a result of the researcher’s interpretation.

More explicit reports of teachers’ desires were contained in the ways in which they talked enthusiastically about the relationships which they had, or wanted to have, with their students. Though the reports of interviewees strongly suggest that teachers like teaching, it can not be assumed that all teachers hold the same view at all times. Liking or disliking aspects of teaching is a personal “choice” which implies the making of a decision.

Such a decision does not conform to the definition of a Type A or Type B decision. It is not concerned with categorisation or interpretation, but rather reflects the value system of the individual. Decisions which were related to the value system of individuals provided a further type of decision designated by the researcher as a Type C decision, and defined as “a decision which serves to evaluate information or phenomena.”

## **(v) Teachers' Constructs of Self and Students**

### **Self Constructs (Self-Identity)**

“It’s all about confidence, I mean getting a new class, you know, meeting a class for the first time, you’re always a wee bit wary of them, aren’t you? You see them sitting there, you’re looking all round the class and you don’t want to get the wrong end of the stick.....I want to make a good impression.....I don’t want to appear not to know what I’m talking about.” (15)

“If I was honest, I would say that I prefer the practical environment myself. Having been a chef for a number of years and worked in the kitchen, I feel that is where my strength lies. Obviously I hope and intend to improve my performance in the classroom..... in theory lessons.....I try to make it as interesting as possible, but teaching in a classroom is different to the practical side.” (1)

“I want to do a better job.” (21)

“I am still learning.” (7)

“Young students I can teach, because of my experience, but older students who have experience overwhelm me.” (19)

“I get more and more things to teach for which I am untrained” (3)

The above comments, appear to fit the definition of Type C decisions.

In reporting their perception of levels of self confidence, the teachers appeared to be making a comparison of their confidence with some “ideal” level of confidence to which they aspired and, in so doing, “judged” or decided that they were short of this ideal.

Compared to their Type C decisions with regard to relationships with students which generally were positive, teachers' decisions related to their own levels of confidence tended to be more negative.

All Type C decisions appear to be reached through some process of comparing a particular situation with an ideal situation. Teachers' perceptions of the ideal in terms of levels of self-confidence are, of course, essentially subjective judgments or evaluations.

### **Constructs of Student**

Analysis of transcripts suggested that teachers' statements focus on two aspects of their students: their ages and their attributes. Statements referring to age were of the nature of categoricals (as defined by Quine 1990) and therefore not regarded as decisions in the context of this study; statements about attributes, however, could be identified as decisions.

When talking about teaching, a number of teachers made reference to the age range of their students.

“All of my students are between 16-19 years old.” (13)

“Occasionally we have older students.....mature students.....in the main it is 16-18 year olds.” (20)

“They tend to be in the age group from 20 - 40.....I would say at a guess the average age would be about 22 or 23.” (17)

“All of my students are between 16 and 19 year olds.” (13)

The above statements cannot be construed as decisions. They are reports of “facts” as known to the individual and do not conform to the operational definition of decision adopted within the study, in that they cannot be translated into propositions which have

alternative interpretations. They were, however, considered to be important in the study, in that they help to establish the context in which teachers work.

Teachers' assignment of attributes to their students, either individually or collectively as groups, was construed as the making of Type A decisions, in that students were categorised, for example, in terms of "ability", "behaviour", "motivation". The assignment of particular students, or groups of students to particular categories appears also to involve the teacher in Type C decisions, in that the categories they "select" or decide to use, are based on their personal value systems.

This observation was considered of particular relevance in a study of individual decision making for it highlights the fact that decision making appears to be potentially more complex than the making of a simple choice between two alternatives, in that the options themselves have to be decided upon before evaluating which category particular students should be assigned to.

In the analysis of teachers' comments with regard to the attributes of their students, it is not possible for the investigator to establish the order of precedence in the making of Types A and C decisions. Neither would it appear that teachers themselves, when ascribing attributes to students, are necessarily consciously aware that they have made decisions. Their statements are reported as "facts" known to them, but they cannot be "categoricals" for there exists the possibility of deciding upon using alternative attributes.

The decision making involved in assigning attributes to students appears to be handled effortlessly by the decision maker, appearing to require no conscious effort; the making of decisions may be a more straightforward task than the analysis of the process of decision making.

Throughout the interviews, teachers made references to their students which including a range of attributes in addition to that of age. For example:

**“My students have different styles of learning.....they have different abilities.” (10)**

**“.....we’ve got some that are really wild and some that are really clever, I just try and be firm with them.” (14)**

**“Well, I’ve got all types of students.....I’ve got students who are very keen.....they can organise other students, and that is part of what they are there for, to learn to organise other people. Having said that, I have also got some students who are like brick walls at times, they are just there.....they don’t want to give anything and I don’t think I can get very much out of them. Well, maybe I’m guilty of categorising them but there are big differences between them.” (3)**

**“I don’t like to categorise them into one particular pigeon hole.....they’re a very broad spectrum, mature, immature, academic, skilled, a very cross-section. I try to bring out their strengths and highlight their weaknesses too, so that we can develop that further.....I don’t see them as a particular bunch together, I try and see them as individuals.” (8)**

**“They lack confidence, have fear of examinations, but they’re sensible lads and can take responsibility.” (21)**

**“Mature and immature.....a wide cross-section.....I try to see them as individuals.” (8)**

**The Type A and Type C decisions which teachers made in ascribing attributes to their students were made within the context of their Type B decisions related to their interpretations of the role of teaching. This suggests that in the decision making process, the context in which the decision is made, that is the individual teacher’s interpretation or understanding of the role of teaching, provides a “mental background” against which the teacher makes these decisions. The attributes teachers ascribe to their students can better**



be understood when cognizance is taken of how they interpret the role of teaching. i.e.

“.....passing on the knowledge I have about Beauty Therapy to students, so that when they are qualified they can go out into industry and carry out the tasks as well as they possibly can.....to ensure the students have a good understanding.....a background knowledge in order to perform their skills.”  
(8)

From the teachers' point of view as decision makers, this interpretation is “known” to them, although it may be taken for granted, and in the ascribing of attributes to their students may not be consciously considered. It may be speculated that such “knowledge” is an influencing factor in the “substance” of the decisions which teachers make in regard to ascribing attributes to their students.

#### **(vi) Teachers' Commentary upon the National Curriculum (Principles and Practice)**

Teachers talked about the curriculum in terms of its principles and contrasted this with how the curriculum operated in practice.

#### **Curricular Principles**

“I think the modular system has an awful lot going for it, it is flexible you know. The student can take it in small chunks. The fact that there isn't a big bang exam at the end, I think, takes a lot of terror out of it for a lot of people.....it's good for developing new topics, we can develop unique modules to meet the needs of students.....” (21)

“The good point about the modular system is that, ideally, students can go at their own pace.....they can start the modules without having any prior qualifications, so it is open to a wide range of people.” (12)

“.....very beneficial for a lot of people.....I like the removal of the end exams, I think continuous assessment is good.” (4)

“.....It’s very good from the boys’ point of view, they go away with something. I’m able to have a lot of flexibility, we could take two to three months for one module. Because of the moving population we have, we could never complete a full course under the old system, but now students can get a certificate for each module they pass.” (7)

“In general I think it’s good, there is not as much pressure as in the old exam system.” (18)

“I think it could be a good system, I like the instant feedback students get from the assessments.” (14)

The above comments, when considered in terms of decision making, suggest that these comments provide evidence of teachers having made Type C decisions, in which they are accepting the proposition that the “philosophy and design of the modular curriculum offers a number of benefits to potential students.” They evaluated the National Curriculum “positively”. From which it may be inferred that such teachers, if asked to make a Type A decision with regard to the curriculum, would classify the curriculum as “good” rather than “poor.”

A number of teachers’ comments, however, suggested that teachers were less inclined to evaluate the assessment system positively, in which students’ achievement is assessed according to pass/fail criteria.

### **Assessment Principles**

“We usually let students know if they have done a particularly good job but it can be de-motivating for them just getting the same award as those who put in less effort.” (18)

“.....I think there should be a grading system added to the modular system. You know, you can get young people to put a lot into a particular module and you get the guy who moseys on down and gets himself through it and they both get a tick at the end of the day. I don't agree with that at all, there's no real push for students.” (13)

“.....Students can abuse the system by the fact that they produce a minimum amount of work and still receive a pass.....that is something of a demotivation which you have to fight against as a teacher.....to try and stop people from doing the bare minimum required.....I feel it's also unfair if somebody puts in an exceptional amount of work and does a really wonderful project or report - that it gets exactly the same mark and there's no way of showing the difference.” (10)

“.....You can't differentiate between the good and the poor students, there is nothing to stimulate or motivate the better students.” (1)

“I feel it has done away with the motivation in students because the assessments are not graded.” (6)

“I think the standard is low and there is no grading system. Students who do a fantastic job are graded the same as those who put in minimal effort and reach minimal standards.....I don't think this is right - it's a shame for those who work so hard, they get no extra recognition.” (23)

The decision statements contained in the preceding transcript extracts are evaluative in nature but negatively orientated. Evaluative decisions are now classified as Type C+ if positive and C- if negative.

Teachers' Type C decisions, which evaluate the lack of a grading system negatively was related to the Type B decisions they made in interpreting the effect of a non-graded system on the attitude, motivation and behaviour of their students. It may be argued

therefore that in the making of Type C decisions, teachers may be cognizant of, or take for granted, the Type B decisions they have made in their interpretations of past events. The more familiar teachers are with a situation, in this case the National Curriculum, the more likely they may be to take for granted the ways in which they have interpreted the operation of the system. For experienced teachers, the making of Type C decisions is likely to be quicker than for internalised novices, in that they have internalised their Type B decisions and take “understanding” for granted: the original Type B decisions which led to this understanding have now passed outwith awareness. Novice teachers may have difficulty in making Type C decisions which evaluate situations before they have made Type B decisions which enable them to interpret or understand them.

Expert teachers may be more confident in making Type C decisions than novices who, faced with new situations, have to interpret and gain an understanding of the situation before they can make effective evaluations of the situation. (see Benner 1984)

### **Assessment Practice**

A range of teachers’ comments on the topic of the implementation of assessment arrangements were transcribed and classified as Type C-decisions. For example:

“You have to provide tangible proof of students’ assessment for the external examiners, this is a lot of paperwork, it doesn’t prove anything. We can’t keep all of the practical work so we photograph it, but how does the external examiner know who did the work? Anybody could cheat in this system.”  
(24)

“The main problem is that the assessments are really bad, they must be standardised according to the system but the questions are very poor. I think it’s crazy, SCOTVEC have a responsibility. What use is a piece of paper that says so can do something if you can’t?” (14)

“.....I have my misgivings about it .....it’s a good system, the idea is good

and the assessment is good, it's when it comes to methods, you know. It does seem to me to be that you've got to have proof for these external assessors, they've got to see something tangible to check that students have actually done the work.....which does cause a lot of problems, causes a lot of paperwork as well, tremendous amount of paperwork involved.” (14)

Teachers' evaluations (Type C decisions) of the design of assessment instruments and the administrative procedures for moderating assessment of students also appear to have negative connotations and were rationalised with reference to their interpretations (Type B decisions) of their experience of implementing the modular curriculum.

### **The Modular Curriculum in Practice**

Teachers' evaluative comments on this topic reflected their concern that the modular curriculum gave rise to “fragmentation” of learning.

“It tends to be a bit fragmented.....students can achieve a module then more or less think “that's it finished” and they can put it to the back of their minds.....they tend to look upon it as “well, I've finished that module, I can forget about it now,” rather than looking upon it as something which they can build upon.....although I can see the relevance of each module and continual practice, many of the students fail to see that.” (20)

“.....the modular system means that you don't have to remember it terribly long.....but I wonder how much they remember, say, six months after they have done the module.....I see disadvantages there.” (22)

There is no inherent reason why a modular curriculum should lead to fragmentation of learning. The above evaluative comments (Type C- decisions) may serve to illustrate that in evaluative statements, personal interpretation of experience appears to be a major influencing factor. The above statements were made in the light of teachers' experience in which modules are taught and assessed as discrete entities. Such an approach is not

an inherent feature of the curriculum design but the consequence of how the curriculum is interpreted by heads of department, college managers, committees or other responsible groups, and subsequently implemented within a particular department or college.

### **The Modular Curriculum in Practice : Content v Time**

Teachers' comments with respect to the volume of content implied by module descriptors, and the time allocated for teaching each module, suggested that some modules were considered to be overloaded in content, some content-lean, while others were identified as sharing common content, so that students in studying a particular module may have covered the same content already. For example:

“I don't think there's enough time.....I definitely think there is not enough time for the modules, I would much prefer if it was back to the old system.”  
(11)

“I feel that some of the descriptors are not quite as good as they could be.....some of them we have difficulty in actually teaching to the required level within the time scale.....some of them would be better suited to be, if not a double module, an extended module, like a module and a half or something.....because I find that we frequently have to buy time, or overlap and cut back in other areas depending on where the group's strengths are.”  
(10)

“The time for some of them is unbelievable. I don't think there is enough time. Management say “they must finish here, try and get them through.” Because of the timetabling they must move on. I would prefer the old system.” (11)

Teachers' reports of the relationship between the content of modules and the time available to teach and assess them are implicitly related to the question of fragmentation of learning. These reports suggest that teachers' evaluative decisions are concerned with

the quality of students' learning. Their concerns for the quality of students learning can be appreciated to some extent if one is aware of the ways in which teachers interpret the role of teaching (the ways in which they combine their subject/person perspectives in the interpretation of the role of teaching). These observations support the hypothesis that an individual's specific decisions of whatever type are informed and influenced by the whole of the individuals' experience, from which their "internal context" is formed. It is this internal context which in turn forms what may be termed their "knowledge base", from which decisions related to the individuals, "external context" are made. Over a period of time much of an individual's experience may become lost to their consciousness so that much of what constitutes their knowledge base and forms the internal context for their decision making becomes largely taken for granted.

Conceptualising decision making as having internal and external contexts, in which the internal context is at least partly taken for granted and outwith the awareness of the individual, may help to explain why expert practitioners are capable of making appropriate decisions related to their external context quickly and efficiently (Brown and McIntyre 1993, Benner 1984), but are unable to articulate the decision making process.

A number of teachers reported their concerns about their need for specific training to interpret and implement the modular curriculum. It may be inferred from the comments which follow that teachers' concerns about their perceived lack of training related also to their levels of confidence.

The degree of confidence in the perceived ability to implement the National Curriculum is likely to affect the internal context of the teacher. The establishment of a self image as capable and confident or otherwise, is influenced by the individual's interpretation of external factors. It is from these interpretations that teachers rationalise their need for training, so that their evaluative decisions with regard to their abilities to implement the modular curriculum and their interpretations of their experiences are consistent one with the other.

This relationship of interpretations of experience and the effect on teachers' perceptions of self-confidence is implicit in the comments which follow.

"I wasn't long into teaching when I asked SCOTVEC to give me somebody who would assess me correctly because I wanted positive feedback about how I was assessing my students. They actually asked me to be the assessor (the lecturer laughed at this point), you know, you just can't do that." (2)

"Because of the lack of training we have had, and the lack of preparation time, students are not benefiting. The modular system is not doing itself any favours by this." (21)

"Lecturers should be given help and guidance. Preparation time is grossly inadequate, particularly to develop new modules. Some lecturers teach only 3 or 4 modules, some of us teach 20+ modules on different subjects. I think the preparation time allowed is inadequate to do a professional job. I get 44 and a half minutes preparation and marking time per subject. I don't think this is anything like enough." (21)

"Lecturers have not been trained to teach or assess the modular system properly. This is my first training about the modular system (on the TQFE Course) after having been in teaching for 3 years. Many lecturers have had little or no training since the modules started. Lecturers who did the TQFE course before the modules started won't benefit from the present course, so generally they have little training." (21)

Three of the teachers interviewed made specific references to the changing nature of the work of the F.E. teacher, extracts from which are reported below. These extracts provide interesting contrasts in how change is perceived and responded to. In the first report, it seems that the teacher welcomes change and responds to it positively and with enthusiasm: change is perceived as providing opportunities and challenges.



“The job itself seems to be varying quite a bit, in fact, I seem to be taking on more and more roles. I’ve got a very wide range of classes..... you can’t sit back and assume things, because there are different styles of learning, different abilities.....in the process of helping others to learn, I learn myself. I find that stimulates me to go on and do more learning out of classroom. That was one of the reasons I came back to teaching after working in industry... ..because in the creative field I found my creativity was being stifled totally. Now I find I’m perfectly at home because I’ve got so many things I want to try and there’s never enough time to do it.....some of those things come from watching others and sharing different views.....seeing a potential way to improve things.....it is interesting and I’m always learning.” (10)

The second report, in contrast, suggests that the teacher is somewhat disenchanted with one major aspect of the changing environment within Further Education.

“Well certainly it is not the job I went into, it wasn’t the same job that I had left previously and came back to. It wasn’t what I thought it was going to be, it has all changed. The modular system was being introduced just as I left before.....another part that has totally changed is the administration side of it.....I just can’t keep up with the administration.....the administration is just horrendous. It’s all ticking boxes here and filling in forms, it’s all these boxes that you have to tick. No one ever comes and checks, but you know that you have got to do it because this is the assessment instrument and it has all got to be itemised.....you get memos about memos about memos. The number of trees that must have been felled to keep these colleges going is unbelievable. The funniest memo was about wasting paper, it was an A4 sheet and it took up about 2 lines.....that’s terrible.....let me get in to a classroom and teach, let me get in there, let me teach and I’m happy.....sitting at a desk with a pile of administration just depresses me.” (14)

The interesting difference between these two reports is that the teacher in the first report is enthusiastic about teaching situations but did not mention administration, while the

second report concentrates on the teacher's resentment about administrative tasks, but towards the end of his report he is overtly enthusiastic about the prospect of classroom teaching.

In the third report the teacher appears to be concerned with impending threats which he anticipates may be detrimental, but as these have not yet occurred there exists at present no substantial evidence to support them. This report is of interest because it exemplifies that threats may be perceived and anticipated on a purely speculative basis.

“The colleges are going to be answerable to run their own funds and that is where I could see outside agencies trying to move in to encourage students away to their departments, so that could be a bit of a threat.” (6)

Each of these reports reflects the making of Type C decisions, the first case, very positive decisions (Type C+), the second case some very negative decisions (Type C-) about one major aspect of the teacher's work, and in the third case what may be described as less severe but non the less negative decisions (Type C-).

### **Interim Summary**

It seems that teachers construe the National Curriculum as being in principle of benefit to students. In particular, flexibility and individual pace of learning were reported to be positive aspects of the curriculum design, as was the replacement of end-of-course examinations by continuous assessment.

In their evaluations of the National Curriculum, the absence of a grading system was considered to be detrimental to the motivation and behaviour of a number of students, in that it did not allow for recognition of enthusiastic and hard working students, who gained only the same grading as those who did minimal work. Teachers' attitudes to the lack of a grading system in the modular curriculum suggest that they have a sense of “fair play” and are concerned that the assessment system denies adequate recognition to more accomplished students.

The administration of the assessment system was also evaluated negatively, in that it was considered by teachers to lack credibility in terms of quality assurance arrangements. They resented the perceived pressure upon them to pass all of their students through a system of indefinite re-assessment. These views also reflected the teachers' sense of fair play. Teachers' negative evaluation were compounded by their negative evaluation of the design of modules in which the amount of subject matter to be taught did not match the time allocation for teaching, and in which content, and therefore assessment, were duplicated. It is possible that these views may be open to challenge on the basis of factual evidence but whether the teachers' reports are agreed or contradicted by others was not a concern of the present study.

Below are presented, the main decision topics related to the National Curriculum, their associated substance or content, along with the decision types allocated by the researcher in accordance with the tentative typology adopted in this section.

<b>Decision Topic</b>	<b>Decision Substance/Content</b>	<b>Decision Type</b>
Principles of design	Benefits to students	C
Grading of assessments	Fairness to all students ;	C
	Affect on students' behaviour,	C
	Affect on students' motivation	C
Administration of assessment	Degree of credibility	C
Implementation of teaching	Fragmentation of learning	C
Module Descriptors	Balance of content/time to teach	C
Teachers Self efficacy	Needs for training	C
Tasks of FE teachers	Changes	C

In talking about how they interpreted the role of the teacher and how they perceived the National Curriculum, the teachers reports were embedded within the context of their work places. In order to appreciate the decisions which the teachers made with reference to their role as teacher and to their perceptions of the National Curriculum the interviewees were invited to talk about their workplaces.

## **(vii) Teachers' Commentary upon Physical and Human Environments in the Workplace**

Teachers' talked in the interviews about the workplace in terms of the physical and human environments it embodied.

### **Physical Environment (Buildings)**

Two contrasting comments relating to the physical environment reflect the different types of buildings and furnishings found in Further Education. The first of these comments refers to a purpose built college, while the second comment relates to a building erected in the late 20's and designed as a school.

“The college I work in is a fairly pleasant environment in the main, it's a fairly modern building, it's set in fine landscaped grounds, it's wide open, it's a fairly wide campus, space restrictions are very few, there's plenty of open areas, the building is reasonably good, there's a reasonably good atmosphere in the place, it's clean and it's tidy. It's a good environment.” (20)

“I think the whole place really could do with a big shake-up. The part of the college I work in was originally a secondary school, it has a school atmosphere, sort of institutionalised building. It is what people regard as “a school.” I think really further education is going to have to commit itself to spending an awful lot more money on the basic surroundings, more comfortable seats, better equipment, so that people feel they are away from school and that there is much more onus on them as learners. Our students are all adults and they should be treated as such. There is this “school desk” kind of syndrome, but a lot of students complain about it. They don't like this idea that they have been sent back to school. I think if we changed the image in a physical sense, decent carpets, decent decoration and furniture, the students' perception of the college would change and be much more mature.”

(21)

This teacher's decision to evaluate the building environment positively is supported by "categoricals" in which the environment is described in factual terms. But the selection of these categorical reflects the values of the teacher and imply "appreciation" of these categorical.

In contrast, the second excerpt, in which the Type A decision is negative, is supported by the teacher's evaluative (Type C decision) comments. The first report suggests "appreciation" while the second suggests "resentment."

It is interesting to note that the original purpose of the building is not of significance. It would seem that the evaluation of the functional suitability of the building is what is considered by teachers to be important, as the following comment illustrates.

"The actual place in which I work is separated. It is totally isolated from the main building. We took over an old High School and there was a technical wing which was totally defunct and it was totally refurbished for Painters and Decorators.....we decorated it ourselves. We had to move in all of our old stuff and sort of make do and mend, but now the facility is excellent, it's one of the best that I've seen. We've got realistic work areas, loads of flat surfaces and panelled surfaces on which to work.....it really is.....the facility is excellent.....when I am in there I am quite happy." (14)

This teacher was talking about a school which had been converted, in his opinion successfully, to meet the needs of Further Education, while the comments below refer to recently purpose-built colleges of Further Education.

"In some ways, frustrating.....there's the usual gripes about money. There are a lot of renovations and so on being done just now, but you know, a lot of it is just papering over the cracks. There are few facilities for the disabled and there is no Student Union." (16)

“We are very short of space and we are very restricted in lots of ways..... particularly in staff resources and we have a lot of frustration with that.” (18)

“.....very frustrating sometimes, getting rooms can be a problem. We had water leaking into the electric system and the rooms had to be closed. It took weeks to get them fixed, meanwhile we had to work without proper facilities.” (12)

### **Physical Environment (Library Facilities)**

Teachers rated their college facilities either as “good” or “poor”(Type A decision). Their tone of voice reflected also the extent to which they felt enthusiastic or disgruntled about their facilities.

Examples of opposite Type A decisions related to library facilities are contained in the following contrasting reports of teachers, which demonstrate that their decisions are informed by their values of what they consider to be important to them.

“As a place to work, I thoroughly enjoy it. I worked in industry and one of the best moves I made was coming back into education.....it’s the hardest job I’ve ever had, but the actual environment where we are working.....it’s the facility you get to read things and keep up to date, that’s what I enjoy. When I was a student at college I spent a lot of time reading things, magazines, journals, you sat in the library and you gathered all this information and then you went into industry and it all disappeared. College is totally different, you are in an environment where you're getting bombarded with information, books, journals, different people coming up to you with different problems associated with Construction.....I thoroughly enjoy it. It’s a tremendous place to work.” (24)

This teacher valued his college library facilities, and the opportunity they provided to him to extend his knowledge and interests, and clearly considered such facilities to be very

important. The view that library facilities are important was shared by the next teacher, but the facilities she spoke about failed to provide such an opportunity.

“Well, I work in an out-building of the college, and it is absolutely lousy. It is two or three corridors and they’ve been cloned to look like the main building but there is no library, there’s no canteen, there’s nothing except a studio, staff rooms, and a toilet, so I don’t think very much of it.....I personally own forty books on the subject which I teach because we have no library. I’ve been buying them over the last few years and I was quite astonished that I had such a collection, so that we do the best we can under the circumstances.” (2)

During the interview this teacher appeared very angry about the lack of facilities in her work place. She was very committed to giving her students the very highest standards.

“I really do think that education and training is the most important thing that a government of any country should invest in. If you don’t have well educated people coming out of schools or colleges the nation can’t develop and produce wealth of any sort.....education is the most important thing that we have in this country.” (2)

These two contrasting reports may serve to illustrate the principle that the decision to categorise library facilities as positive or negative can only be identified or understood by another when cognizance is taken of both teachers’ evaluative decisions (Type C) of the importance of library facilities and their interpretations (Type B decisions) of their respective facilities to satisfy their values.

### **Human Environment (General)**

The point has been made that the understanding of an individual’s value system is a crucial element in understanding the decisions made. Further evidence of teachers’ appreciations and resentments were implicit in the ways in which they talked about relationships within the work place.

How teachers evaluated their relationships within the work place was independent of their evaluation of the physical facilities of the work place. Throughout the interviews an impression was gained by the investigator that teachers regarded “relationships” as more important than “facilities.”

“I work in an annex of the college and find it a quite relaxing atmosphere. The facilities in the annex aren’t terrific, but the actual atmosphere and the people there I enjoy working with.” (3)

“We have developed a very close-knit working relationship where, if one person has an idea that works, it gets spread around and it infiltrates the whole system and we find this is starting to happen even with part timers as well.....so I would say it’s a close-knit and very supportive environment.” (10)

“I enjoy working there, it’s a small college, we get to know all the students very well. The atmosphere is very friendly. In a large college I don’t think it’s like that.” (1)

“It’s a very pleasant environment, there are only 10 of us working together and we get on very well.” (3)

“We have now got a new Head of Department and the department is now an exciting place to work, it’s vibrant and interesting.” (24)

These reports suggested a congenial atmosphere within the workplace which teachers appeared to appreciate. Such reports were in contrast to less enthusiastic evaluations of relationships, for example:

“There’s difficulty in getting people motivated. I don’t find it a good place to work, there’s lack of interaction with colleagues.” (17)



“At the moment it’s not a very pleasant place. There’s a lot of changes taking place with the new modular system. There’s an awful lot of people been hiding in cupboards in the last 15 or 20 years. They have been carried through the old system and there’s now a lot of talk about efficiency and cost effectiveness.....as a person who has been teaching for 6 years now, they could isolate me....“he’s only been here 6 years”.....they may class me as not being a competent lecturer, but there are people in there who have been doing a fairly bad job for the last 20 years and they might ride through these changes.....and they are certainly not going to change their ways.....I feel just now there is a lot of backsides being covered.” (13)

“I tend not to enjoy working with a whole bunch of females together. I don’t think it’s a healthy atmosphere somehow. I don’t like to get over-involved, I view the other members of staff as colleagues, not friends, I keep my social life separate.” (8)

It seems that “personal relationships” is a major organising category in teachers interpretations of educational processes, both with regard to their students (as discussed earlier in the analysis) and with regard to the time they spend interacting with others in their workplaces. Teachers appear to appreciate relationships in which they feel accepted and recognised as individuals and resent relationships in which they feel discounted or isolated. They appear to categorise their relationships as positive or negative reflecting their own value systems expressed in terms of appreciation and resentment of the ways in which others act towards them.

Teachers appear to appreciate relationships which enhance their self image, while resenting relationships in which their recognition as individuals is discounted by others. How individuals evaluate their relationships with others is likely, also, to be a function of their self-identity.

It may be suggested that individuals who have a positive self image and hold themselves in high esteem may be less vulnerable to criticism by others but, nevertheless would value positive relationships rather than negative relationships.

### **Human Environment (Relationships with Managers)**

Teachers volunteered statements about their perceptions of the quality and style of management in the workplace, which permitted inferences about likely effects upon their self-identity, self-esteem and therefore work satisfaction.

### **Communication Styles**

Teachers' reports suggested that managers who exhibited poor communication abilities were a major source of disappointment.

“I think the management are poor.....it is de-motivating. We have had no departmental meetings in two and a half years. Meetings, when they did occur were a farce, it was a monologue, no time to ask questions. There was a new computer marking system I was supposed to use,I found out about it through the grapevine.” (13)

“They don't say what they mean or what they want. I would have liked objectives or goals.....management don't say what they expect. The HMI commented about how I was teaching Special Needs students. I was teaching them like I teach other students, I was teaching them a Craft. I need to know what management want and expect but they didn't make that clear, they just told me to teach my normal subjects.” (23)

“I get memos on my desk, I read them..... I don't understand. I find out no one else does, so it just gets filed away and that is the end of it.” (23)

**“Most of the course leaders we have never met, we don’t have any meetings, there is no feedback or anything like that.” (17)**

### **Recognition and Support for Teachers**

As the interviews progressed it appeared more and more evident that teachers’ comments about poor managers reflected disappointment in not having their desires, (i.e. for training, resources, personal recognition, or support from their managers) satisfied. For example :

**“I am disappointed that they show no interest in what I am doing, not once. They have never told me I am doing a good job or a bad job, they have never seen what I am doing.” (7)**

**“There is no support from management when it comes to disciplining students.” (16)**

**“I had a discipline problem with some very difficult students, they were throwing paint around the workshop and swearing. I went to the Head of Department and he just ‘didn’t want to know.’.....They just leave problems to the instructor.....I just avoid him he is not any help to me.” (7)**

**“I don’t get much guidance or direction.....most of the time you are left to work on your own.....the Head of Department is helpful to your face but doesn’t follow through.” (9)**

**“I know I am doing well in my college because nobody comes and criticises me, as soon as I am doing my job wrong they are down on you like a ton of bricks.....but they don’t know what the students are being taught or how things are happening in the classroom.....all they see is assessment results.” (11)**

It seems that teachers have an ideological image of how managers should communicate, support and interact with their staff. Teachers are appreciative of those they perceived to be good managers in these respects, whilst being extremely critical of those who do not. How teachers categorise and evaluate their managers may differ from how managers perceive themselves, or are perceived by others but, in consideration of the effect which teachers constructions of the their managers have on the teachers' self-esteem and motivation, it may be suggested that the quality and style of managers is likely to have important consequences for the morale and performance of teachers.

The above reports suggest that teachers construe their managers in Blake's and Mouton's (1964) terms as being highly orientated towards "task", whilst being low in "people" orientations. This suggestion is supported by teachers' reports related to the style of managers' communications.

Teachers tended to categorise their managers as "good" or "poor" (Type A decision). These categorisations were rationalised by the teachers' interpretations (Type B decisions) of a managers' role, and their evaluations (Type C decisions) of the performance of their own managers.

### **Good Managers**

"She's very good, she's one of those people.....finger on the pulse in every section.....she's marvellous.....you know you can always talk to her about any problem." 10)

"Since we got a change in the Head of Department the difference has been like night and day ,you know what's actually happening, it's becoming more vibrant and it's actually become quite an exciting place to work.....he's created a.....well, he's letting the department see the amount of its potential."  
(24)

"My immediate senior lecturer I find very good to work with and to work for.

She has got me to do a lot of stuff without me realising it.....there's times when you're under pressure but you know it's fair."..(23)

These reports contrasted with reports in which managers were categorised as poor. Poor managers were characterised as ill-informed, autocratic and unresponsive to teachers' needs or desires. Teachers reported that the effect of poor management was to lower morale leaving teachers feeling isolated and under-valued.

### **Poor Managers**

"The Principal and the Assistant Head of Department..... I see them as really fair towards me, but as a whole, there is a funny sort of atmosphere in the college where, if you go into a department meeting, it doesn't matter what you say, everything is predetermined. I mean I can only tell you my sort of personal views and that is, that I think maybe some fresh blood, some new faces, would sort of stimulate things." (11)

"Well I mean, you can go to the Head of Department, he is very helpful face to face, but I'm not always sure that it is followed through if you have a complaint." (9)

"They don't seem to have paid much attention to the career structure. Assuming that you want to remain in the classroom.....I mean, there is always the step out into administration but not everybody wants to do that, and that is the way I feel.....there is that aspect." (16)

".....I don't think a lot of our managers, they are quite happy if students in the classroom are kept under control. They are not really too interested.....as long as they don't see students running about the school they're quite happy.....they've never once come over and expressed any great interest in what I am doing, which is a bit disappointing from my point of view as I would like to think I am doing a good job.....I think it would be nice for

them to show a bit more interest in what I'm actually giving my boys to do.”

(7)

“It's a funny environment our college.....the management sometimes don't seem to take a great deal of interest in the students or the lecturers. As far as I'm concerned.....I mean it's a numbers game to them and it's “bums on seats” if you know what I mean.....and you hardly ever see them.....in fact, in some cases, I don't think they would know who I was.....” (15)

“They seem very concerned with public image at the moment. To me they seem more concerned with that than what is actually going on in the classroom.....Just with the statements I hear of what they're going to be doing, making the Board Room well equipped, fancier and things. While we're struggling with our machines, rooms and resources, that doesn't seem to be very important to them. They would rather put the money into the Board Room where they bring in people from outside.....well it is all just a big face to be put on.” ( 17)

“As long as registers are kept up to date the management is happy, they leave you to get on with it There is plenty of room for improvement.....it is easy to criticise. I don't like much of what they do, but I try not to criticise people. They tell you what to do but don't explain why.” ( 6)

“The equipment I had to work with was unsafe, the management were not interested. Eventually I wrote to the Health and Safety Executive and only then was something done” (5)

Good managers were characterised as efficient, well informed, good communicators and good listeners who showed an interest in the work of the teachers. Working with managers who were perceived as good seems to have a positive effect on morale, motivation and commitment of teachers and their colleagues. Teachers who work for managers whom they perceive as poor, experience feelings of being isolated from, and

ignored, by such managers and resent having to work under their direction.

### **(viii) Summary and Linkages with Subsequent Sections**

In the introduction and rationale to this section of the study, its aims were described as being to use interview data in order to :

**1** categorise the nature and content of teachers' decision statements into appropriate broad and more detailed categories;

The work carried out towards the achievement of the first of these two aims is summarised below under headings, roughly in accordance with the corresponding sub-headings in the body of this Section.

**2** examine in some detail and, if possible, categorise the process rather than the outcome of teachers' decision making.

The progress made towards the second of these two aims is also summarised, in terms of the development of a new, tentative typology of decisions as the work upon the data progressed, under the heading "Process of decision making: development of a typology".

Finally, the linkage with Section 8 of the study is outlined.

As will be clear from a reading of the introduction to and the body of the Section, the process of analysis, in keeping with grounded theory principles, is not a simple linear one. Therefore, comments upon the progress of typology are interspersed throughout the section. For this reason too, a complete re-reading and interpretation of the data, and the categorisation work carried out upon it, led in the end to certain impressionistic hypotheses, these consisted of speculative connections between the nature of teachers' statements about teaching and their values and belief systems.

This prompted the origination of questionnaire items not directly derived from interview statements, but rather designed to test the degree of importance allocated to, and satisfaction derived from certain key statement categories. The linkage is, once again, with Section 8 below.

## **1 The Nature and Content of Teachers' Decisions**

### **Teachers' Perspectives on Teaching**

The conclusions to be drawn from analysis of interview transcripts were only possible after a number of readings and re-readings, from which emerged a recognition that teachers share major constructs in how they construe educational processes.

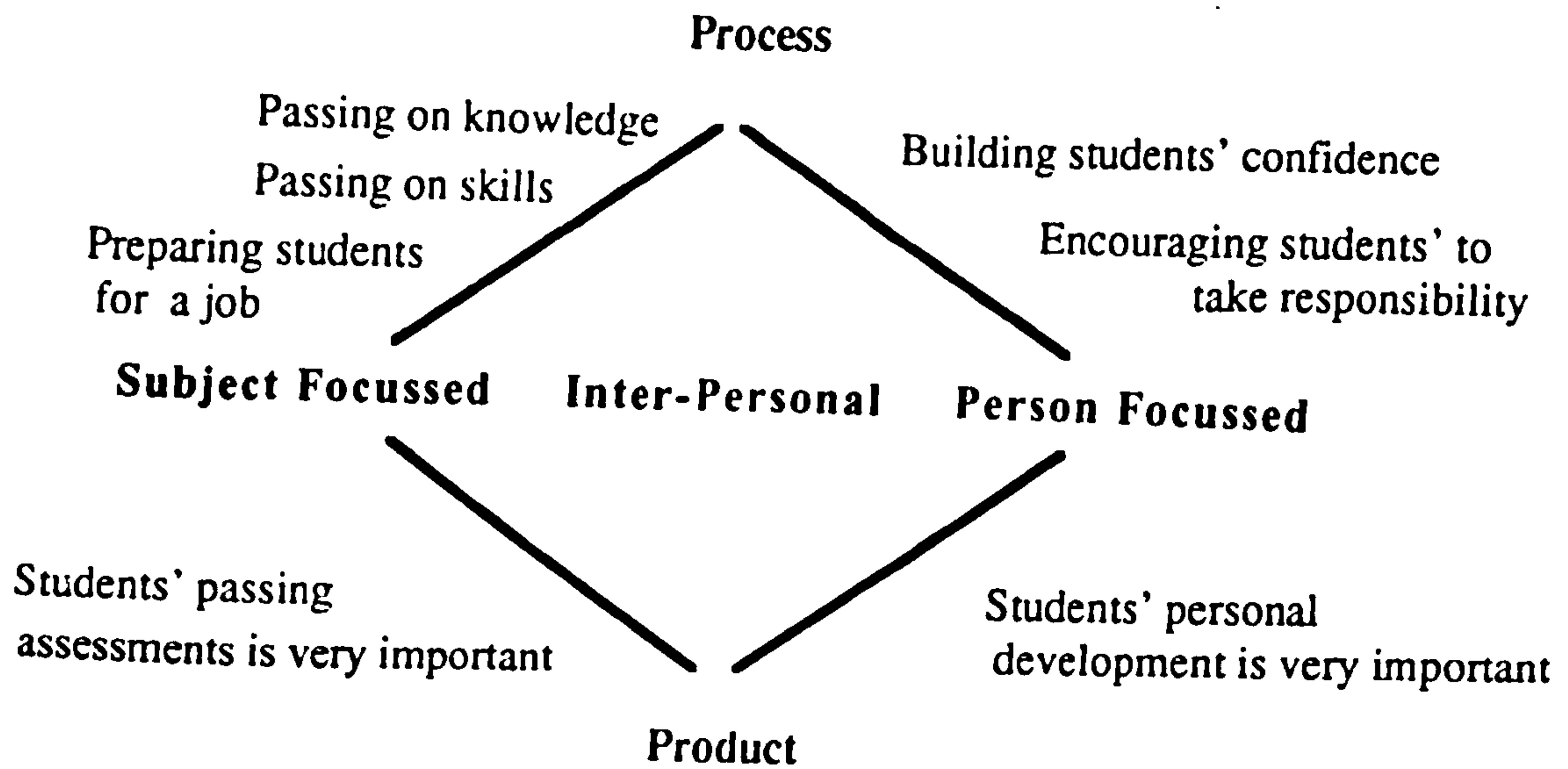
Teachers appeared to interpret the role of teacher from two perspectives which were independent but not mutually exclusive. These perspectives were categorised as "subject" and "person" perspectives, and were considered to represent the emphasis placed upon their desired outcomes.

From a subject perspective, teachers' interpreted their role as one of subject specialist, and the process of teaching as the imparting of knowledge and skills to their students.

Teachers who construed the role of the teacher from a person perspective, talked about the process of teaching as one of interaction with students in ways likely to develop relationships which would enhance the students' self-image and levels of confidence.

Such a process was considered by some teachers to be an end in itself, while other teachers considered that the development of students' self-esteem was a prerequisite for teaching subject matter effectively. The desired outcome of the process of teaching for such teachers was greater maturity, self-esteem and confidence amongst their students. Teachers' perspectives on teaching is summarised in Figure 4.





**Figure 4 Teachers' Perspectives on Teaching**

### **Teachers' Constructs of Self and Students**

#### **Teachers' Self-identity**

In the present study, the concept of self-identity is taken to mean the cumulative total of all of the teacher's self-constructs related to his/her professional life.

In talking about their professional lives, subjects of the study focussed initially upon their role as teacher which they interpreted as discussed above and illustrated in figure 4. Throughout the interviews a clear impression was gained by the researcher that individual teachers' sense of self-identity was directly influenced by their perceptions of personal efficacy in the achievement of high levels of subject mastery and personal development of their students. The extent to which teachers considered themselves to be effective in the role of teacher was reflected in their reported levels of enthusiasm, confidence and satisfaction.

The decision statements teachers made when talking about the National Curriculum and their workplace environment appeared to both influence and be influenced by their self-identity. Teachers' decisions related to aspects of the National Curriculum and their workplace environments were positively or negatively oriented. These decisions

appeared to be influenced by the teachers' perceptions of the extent to which these aspects promoted or inhibited their effectiveness in their roles as teachers.

### **Teachers' Constructs of Students**

Constructs of their students reflected the teachers' concerns to demonstrate efficacy in their classroom performance, and to achieve their desired outcomes from the process of teaching. All of the teachers appeared to hold preconceived images of "desirable" or "undesirable" students. Desirable students were perceived to be those with positive attitudes towards "learning" "working" "good behaviour", while the converse was the case for undesirable students.

Teachers appreciated teaching desirable students and resented having to teach those they perceived as undesirable. Desirable students were considered by teachers to provide opportunities for the teacher to demonstrate efficacy in classroom performance, while undesirable students were perceived as inhibiting them from doing so.

### **Commentary upon the National Curriculum**

Teachers tended to agree in principle with the philosophy and design of the National Curriculum and saw a number of advantages in this type of curriculum for the student population. They also reported however, a number of reservations and resentments concerned with how the system operated in practice.

Teachers reported that some students abused the flexibility of assessment arrangements, and this was seen as disruptive to teaching. The content of some modules was considered to be unbalanced in terms of time allowed for the teaching of the specific content. Teachers' greatest concern appeared to be that some assessment instruments were badly constructed technically, and designed to test outcomes at inappropriately low levels of performance. There was also considerable concern about the absence of a grading system which teachers saw as resulting in diminishing student motivation. Some teachers were of the opinion that they had been poorly guided in the interpretation

of the curriculum, and suffered from a lack of specific training in teaching within a modular system.

Teachers resented the increased workloads which the administration of National Certificate systems involved, and which they perceived as reducing their capacity of preparing and teaching effectively against greater time constraints.

### **Commentary upon the Working Environment (Physical and Human)**

Analysis of transcripts suggested that teachers' construe their work environment dichotomously. Facilities were construed as either good or poor; relationships as positive and characterised by being mutually supportive, or as negative and leading to feelings of isolation.

From the volume of comments, and their emotional content it would seem that teachers were much more concerned with the nature and quality of relationships with colleagues and students than with the physical resources available to them, even though the latter were themselves regarded as of considerable importance.

### **Facilities**

Teachers construed their college facilities as being good or poor. Decisions (Type A) which categorised facilities as good were informed by the teachers' evaluative decisions (Type C) that the available facilities were helpful in providing an adult and professional learning environment, while some teachers' decisions to categorise facilities as poor, were informed by their evaluation of their facilities as providing a "school" atmosphere which was not considered to be conducive to the teaching of adults.

In reporting what they thought of their college facilities, teachers tended to stress the negative or poor aspects which inhibited them in their task of teaching. Some teachers commented favourably on what they perceived as good facilities within their workplace.

Herzberg (1966) identified aspects of the working environment as “hygiene factors” (or “dissatisfiers.”) Such factors, he argues, if “poor” will lead to dissatisfaction, if “good” to an absence of dissatisfaction. “Satisfiers” are factors which result in “positive satisfaction” i.e. high levels of motivation. Herzberg argues these factors from an analogy with health. Good hygiene will reduce the chances of “disease” (dissatisfaction) but of itself will not create “fitness” (positive motivation). Herzberg argues that “hygiene factors” are related to the environment, while “satisfiers” are related to “the nature of the individual’s job.”

### **Relationships**

In talking about their work place, teachers emphasised the importance of good interpersonal relationships as being conducive to carrying out their teaching function effectively. Relationships were categorised by many as “close”, “supportive”, “co-operative”, “friendly”, “vibrant”, “interesting”, “good”, “pleasant” and “motivating”, while a comparatively few teachers talked about feeling isolated from their colleagues and managers. Relationships then, were construed by teachers either as encouraging or inhibiting them in their tasks of teaching.

### **Management**

When talking about how their colleges were managed, teachers constructs were categorised by the researcher dichotomously as “good” or “poor”. The criteria for such categorisation was based upon how far teachers interpreted their managers’ decisions and behaviour as being “decisive”, “helpful”, “appreciative”, “interested” and “supportive” of the teachers as individuals. The quality of management of college resources was regarded by the teachers as being directly related to staff morale and individual motivation.

Teachers differentiated their managers in two respects: firstly, their styles and effectiveness of communication and secondly, their approachability.

## **2 The Process of Teachers' Decision Making**

The analysis of teachers' reports at this stage of the study led to the conclusion that different broad purposes, for example categorisation, interpretation or evaluation, corresponded to Type A, B or C decisions respectively in the tentative typology of decisions.

Statements made by teachers could be identified by analysis as decisions (decision statements) since they conformed to the operational definition of decision, even though teachers themselves would not necessarily construe them as decisions. The statements could be analysed in terms of their function or purpose, and allocated one of the three types, A, B or C.

That the teachers had no hesitation in making the statements suggests that these decisions were made outwith their awareness, and their accuracy, or truthfulness, was taken for granted by them.

The teachers were, of course, conscious of making the statements which evidenced these decisions but had no need to "reflect" or consider alternatives before making them. Their statements represented their "knowledge" and the extent to which they had "made up their mind" or "resolved" the accuracy or meaning of this knowledge. The teachers' statements, when translated by the investigator into decisions, may be considered to be decisions in the nature of Watkins' (1967) "logical" decisions, or Calderhead's (1984) "routine" decisions, both of which resolve information, or inform actions without recourse to conscious reflective thought, or consideration of alternatives.

Identifying teachers' decisions from their statements, by testing these statements against the operational definition of decision adopted in the study, was considered to be an important breakthrough in addressing the problem of recognising decisions when made outwith the awareness of the decision maker. The analysis has suggested that there are three types of decision, each of which serve different purposes, but that each decision is made within the context of the other decisions. This context is internal to the decision

maker. The decision maker “knows” this context and is so familiar with it that in the making of one decision, the other decisions which make up the context may be “taken for granted” or made “outwith the awareness of the decision maker”.

It may be useful at this point to exemplify in summary format the categorisation of decisions by type. In the table below three main topic areas of decisions are listed, along with substance or content appropriate to these topics. These are then allocated types A, B or C in accordance with the tentative typology of decisions developed in the course of the study

<b><u>Decision Topic</u></b>	<b><u>Decision Substance/Content</u></b>	<b><u>Decision Type</u></b>
<b>Job Title</b>	Teacher, lecturer, instructor.	A
<b>Perspectives</b>		
Subject perspective (Process)	Impart knowledge/skills	B
Subject perspective (Product)	Objective assessment of student achievement	B
Person perspective (Process)	Building students' self-image	B
Person perspective (Product)	Subjective assessment of students' self-esteem and self-confidence	B
Social perspective	Relationships with students	B
<b>Evaluation</b>		
Role of teacher	Degree of liking for the role	C
Self-Identity	Confidence ; abilities ; desires	C
Students	Abilities; motivation ; behaviour	C

When each individual decision is “read” within the context of what and how teachers talk about their professional lives it appears that they form an implicit or explicit interdependent relationship. The extent to which one decision influences and is influenced by others is considered to be a function of the nature of the data and the context in which the decision is being made.

## **Linkages with Section 8**

The linkages between this and the following section reflect the transition from the qualitative analysis of substantive data to a quantitative treatment founded upon the same raw data: the recordings and transcripts of subject interviews and the key decision statements derived from them. The decision statements provided the items making up the main sections of a questionnaire which was the basis of the quantitative treatment of the teachers' discourse. In this way, these outcomes of Phase 1 of the study will facilitate the production of a descriptive "profile" of practitioners in the F.E. sector; the testing of important hypotheses concerning sub-sets of that population; the quantification of qualitative impressions gained by the interviewer/researcher.

In addition, the main conceptual innovations emerging from the present Section (the preliminary structure of organising categories of decisions and the tentative typology of decisions) will be tested for saturation in Section 8, using the instrumentation of a series of open questions. These, too, found their origins in the present section in the form of interview decision statements, but also more generally as inferences made as a whole: Some questions were of the nature of amalgamation of reported statements giving rise to general impressions of subjects' views and attitudes. On the foundation of data from Phase 1, key concepts isolated in that Phase will be subjected to constant comparative analysis. In this way, the various outcomes of this central Section of the study contributes directly to addressing the intentions of the second qualitative, phase.

## **SECTION 8 FURTHER EXPLORATION OF TEACHERS' CONSTRUCTS**

### **(i) Introduction and Rationale**

The main concern of this section of the study was to build upon and progress from the achievement of one of the aims of Section 7 : to identify appropriate categories for the teachers' decision statements which were the raw ideographic data emerging from the employment of the interview protocol.

The categories, broad and general as well as more detailed and specific, were identified on the basis of the occurrence, of relevant teacher statements, and did not depend for their place in the structure upon any process of prioritising, e.g. on the grounds of frequency of appearance in teachers' discourse. They could not, therefore, be taken at that stage of the study as statistically representative of the views of such a population of Scottish F.E. teachers at large.

The emergent categories were, however, tested to the level of saturation *via* the protocol of constant comparative analysis, as indicated and explained in the course of Section 7. This method was also applied in that Section to aid the development and check the applicability of a tentative typology of decisions.

As explained at appropriate points earlier in the study, the methodology of discovery and constant testing of new categories in the process of research is a conventional application of the principles of the "grounded theory" approach; the researcher anticipated continuing to refine categories and concepts, where relevant, by means of the same approach throughout later stages of the study.

After completing the formal work described in Section 7, the researcher formed general impressions, derived from the iterative process of reading and re-reading the decision statement data, relating to what might be termed the degree of importance ascribed by respondents to certain of their workplace activities, and also to the degree of satisfaction



derived from certain aspects of their work. It was speculated, that is to say, that already-identified organising categories were differentiated in the minds of practitioners in terms of their perceived magnitude and the utility gained from them. These subjective impressionistic judgments of the researcher could be quantified to some extent by the addition to the questionnaire employed in this Section of a small number of appropriately-originated items not directly derived ( as was the case of other items) from interview decision statements.

### **AIMS of Section 8**

The aims of this Section fall into two broad groups, according to the type of questionnaire item selected to help achieve them. Aims I, II and III were addressed using “closed” items, while aims IV and V correspond to the use of “open” questions (see Appendix A )

As indicated in the introduction to the study (Section 1), an important general intention is to provide information and models which may be of interest to, amongst others, teachers in the F.E. sector and beyond; educational administrators; researchers in similar or comparable fields, and may prove adaptable to their purposes.

**AIM I :** to provide the above interest groups with a more reliable tool for the purposes of comparison in the form of a normative profile of teachers surveyed in the study.

Theoretical constructs such as those emerging from earlier Sections of the study should be capable of generating fresh hypotheses in a format amenable to testing : for example, on the basis of the work done on the data in Section 7 above, it might be hypothesised that differences in response would result between sub-sections of the population with differing subject specialist backgrounds ( say, the physical contrasted with the social sciences). Similarly, responses might be regarded as likely to vary with the gender of participants:

**AIM II** to test , using quantitative data generated by questionnaire items, two null hypotheses

- teachers' decisions are not differentiated in terms of the subject areas they teach ;
- teachers decisions are not differentiated in terms of their gender.

It was considered worthwhile by the researcher to subject those impressionistic judgments arrived at as a result of the research process of Section 7 to a more rigorous and formal evaluation. To this end, a number of questionnaire items were constructed and administered to test in the areas of respondents' degrees of perceived importance and of satisfaction.

**AIM III** to quantify as far as possible, the impressions formed by the researcher in terms of degrees of importance and satisfaction (as described above).

The output constructs of Section 7 i.e. the formulation of organising categories of decisions and of a tentative typology of decisions could clearly be confirmed by a further process of constant comparative analysis. A group of open ended items was devised for this purpose, and appended to relevant sections of the questionnaire administered to underpin this phase of the study.

**AIM IV** to test the organising categories identified in Section 7 to the level of saturation, *via* a series of open, non-directive questions.

**AIM V** to test the tentative typology of decisions proposed in Section 7 to the level of saturation *via* a series of open, non-directive questions.

In this Section of the study, as in all of the phases of the study, the two main strands of enquiry were the identification of organising categories of teachers' decisions and the development of a theory of the practice of individual teachers' decision making. In common with the approach adopted throughout these foci were not treated independently of one another nor in a simple sequential order: rather, the strands are interwoven to match the requirements of explication.

## Analysis of Questionnaires and Theoretical Development

### (ii) The Role of the Teacher

From the analysis of interviewees, it appeared that many of the interviewees did not directly ascribe a title to themselves but talked about their role in terms of the subjects and academic level of students they taught. Those who did use a job title referred to themselves as teachers, lecturers or instructors. To ascertain which of these titles has greatest currency in Further Education, respondents to the questionnaire were invited to indicate which title they used when referring to themselves. Table 1 shows the response rates of subjects asked to indicate their agreement with the statement. "in talking about my job I refer to myself as ....."

Groups	Business & General Studies		Engineering		Science		Building		Totals	
	n	%	n	%	n	%	n	%	n	%
Lecturer	48	(94.1)	25	(86.2)	40	(85.1)	13	(72.2)	126	(86.9)
Teacher	6	(11.8)	5	(17.2)	9	(19.1)	8	(44.4)	28	(19.3)
Instructor	2	(3.9)	0	-	2	(4.3)	0	-	4	(2.8)
Totals	51	(35.0)	29	(20.0)	47	(32.4)	18	(12.4)	145	(100)

**Table 1** Titles which FE teachers use when referring to self

It can be seen from Table 1 that the job title most commonly used by subjects of the study is lecturer (86.9%) but that some respondents may use more than one title.

In addressing the disparity between the impression conveyed from analysis of interview transcripts which suggested that "teacher" was an apt title to apply to subjects of the study, and the responses recorded in the questionnaire that "lecturer" is much more commonly used in further education, it may be suggested that a job title is more meaningful as a means of identifying an occupant's "position" within an organisation to others who are familiar with that organisation, but a job title may not be descriptive of the functions the individual performs in the organisation, and hence may convey little meaning to those outwith the organisation. For example, the title lecturer as used in further education would appear to reflect the tradition of differentiating teachers employed in F.E. from those employed in the school sector, but has little significance

in differentiating the functions of those employed in teaching in F.E. or in schools.

How subjects of the study interpreted their role appeared to be more pertinent to their functions than the job titles they used. It may be true in a wider context that job titles are perceived to carry with it some implied status, but the evidence within the study suggests that the title “lecturer” reflects tradition rather than any claim to a particular status in society.

### **Perspectives of the role of the teacher**

To test the generalisability of the concepts of subject and person perspectives, the questionnaire invited respondents to indicate their agreement/disagreement with a number of subject - and person - based statements drawn from interview reports. Table 2 shows the response rates related to “subject perspective” comments.

Groups	Business & General Studies		Engineering		Science		Building		Totals	
	n	%	n	%	n	%	n	%	n	%
Giving students skills	41	(80.4)	22	(75.9)	36	(76.6)	13	(72.2)	112	(77.2)
Passing on my knowledge	40	(78.4)	23	(79.3)	31	(66.0)	14	(77.8)	108	(74.5)
Passing on information	35	(68.6)	23	(79.3)	31	(66.0)	0	-	89	(61.4)
Prepare students for a job	30	(58.8)	19	(65.5)	31	(66.0)	14	(77.8)	94	(64.8)
Totals	51	(35.0)	29	(20.0)	47	(32.4)	18	(12.4)	145	(100)

**Table 2 “Subject perspectives” of teaching**

The figures in Table 2 are derived from reports of interviewees, and support the proposition that the concept of a subject perspective is shared by a number of teachers.

Table 3 shows the responses related to “person” perspective comments reported by interviewees.

Groups	Business & General Studies		Engineering		Science		Building		Totals	
	n	%	n	%	n	%	n	%	n	%
Building student confidence	45	(88.2)	26	(89.7)	40	85.1	15	(83.3)	126	(86.9)
Encouraging students to be responsible	37	(72.5)	20	(69.0)	35	(74.5)	13	(72.2)	105	(72.4)
Totals	51	(35.0)	29	(20.0)	47	(32.4)	18	(12.4)	145	(100)

**Table 3 “Person” perspectives of teaching**

The analysis of interview transcripts suggested that some teachers interpreted teaching more from one perspective than from the other, but that these perspectives were more a question of degree rather than exclusivity. The data in Tables 2 and 3 indicate that respondents agreed with more than one reported comment in each table, which supports the tentative conclusion drawn from analysis of interview transcripts that these two perspectives are not mutually exclusive and it would be misleading to attempt to categorise individual teachers as taking either a wholly subject or wholly person perspective.

The highest response rate in the questionnaire was to the item related to “building student confidence” (Table 3). Here a person perspective was taken by 86.9% of those surveyed. Such a high proportion could not have been anticipated from analysis of interview transcripts alone, and confirms the usefulness of reinforcing qualitative with quantitative methods. Interviewees reported that key aims of their teaching subject perspectives and person perspectives respectively, to help students pass their assessments and to help students in their personal development. In an attempt to ascertain the degree of importance which teachers ascribe to these aspects of teaching, the questionnaire invited respondents to indicate how important they considered them. The responses are shown in Tables 4 and 5.

The data in Tables 4 and 5 were considered to be of particular interest in that the interview analysis suggested that individuals were biased towards one or other of these perspectives.

Groups	Business & General Studies		Engineering		Science		Building		Totals	
	n	%	n	%	n	%	n	%	n	%
Extremely important	11	(23.4)	9	(32.1)	11	(25.6)	3	(16.7)	34	(25.0)
Very important	19	(40.4)	10	(35.7)	15	(34.9)	7	(38.9)	51	(37.5)
Important	17	(36.2)	9	(32.1)	16	(37.2)	7	(38.9)	49	(36.0)
Not important	0	(-)	0	(-)	1	(2.3)	1	(5.6)	2	(1.5)
Totals	51	(35.0)	51	(35.0)	47	(32.4)	18	(12.4)	145	(100)

**Table 4 Degrees of importance of students passing assessments**

Given that Further Education is primarily concerned with vocational training, one might expect that F.E. teachers would be inclined to interpret teaching from a subject perspective, yet the response rates in figures 4 and 5 show that the ratings of “extremely important” are higher in figure 5 (person perspective) than in figure 4 (subject perspective) and that there is little difference between the ratings of “very important”.

Groups	Business & General Studies		Engineering		Science		Building		Totals	
	n	%	n	%	n	%	n	%	n	%
Extremely important	29	(56.9)	10	(35.7)	18	(38.3)	7	(38.9)	64	(44.4)
Very important	14	(27.5)	9	(32.1)	20	(42.6)	5	(27.8)	48	(33.3)
Important	8	(15.7)	8	(28.6)	9	(19.1)	6	(33.3)	31	(21.5)
Not important	0	(-)	1	(3.6)	0	(-)	0	(-)	1	(0.7)
Totals	51	(35.4)	28	(19.4)	47	(32.6)	18	(12.5)	144	(100)

**Table 5 Degree of importance of helping students in their personal development**

When considered in isolation, these figures may suggest that F.E. teachers are more concerned with helping students in their personal development than in helping them achieve mastery of the subject matter which, after all, is the basis of their certification. The analysis of interview transcripts suggests that teachers are not more concerned with personal development *per se* but do consider that for many of their students personal

development is a precursor to mastery of subject matter. Seen in this context, the higher ratings of importance ascribed to personal development appear to be less anomalous or surprising.

Interviewees made many references to their desire for and enjoyment derived from the relationships which they had with their students. The impression gained from the interview analysis was that teachers ascribed considerable importance to the quality of the relationships they had with their students. To test this impression, the questionnaire invited respondents to indicate the degree of importance which they ascribed to the relationships they had with their students. The responses are shown in Table 6.

Degree of Importance	Business & General Studies		Engineering		Science		Building		Totals	
	n	%	n	%	n	%	n	%	n	%
Extremely important	22	(43.1)	9	(32.1)	24	(51.1)	5	(29.4)	60	(42.0)
Very important	17	(33.3)	11	(39.3)	10	(21.3)	6	(35.3)	44	(30.8)
Important	12	(23.5)	5	(17.9)	13	(27.7)	6	(35.3)	36	(25.2)
Not important	-	-	3	(10.7)	-	-	-	-	3	(2.1)
Totals	51	(35.2)	28	(19.6)	47	(32.9)	17	(11.9)	145	(100)

**Table 6 Degree of importance ascribed to having good relationships with students**

The response rates for ratings of “extremely important” and “very important” for Tables 4, 5 and 6 were collapsed as shown in Table 7.

Students passing assessments (Table 4)	62.5%
Helping students in their personal development (Table 5)	77.7%
Having good relationships with students (Table 6)	72.8%

**Table 7 Comparison of ratings of importance (Extremely/very important)**

Interviewees suggested that the National Curriculum was not conducive to holistic learning, but tended to lead to fragmentation of learning. This perception may be the result of modules being assessed as “entities”, which contrasts with teachers’ own experience of learning and certification as students. Many teachers’ experiences when students tended to be based on end-of-year assessments, which integrated theoretical learning and application of practical skills. This may explain why teachers tend to evaluate the National Curriculum, not empirically on its merits, but rather in relationship to systems with which they are more familiar.

It is interesting to note that student assessment results were not perceived by teachers to be of the greatest importance, when one considers their use by many interest groups, including employers and educational institutes as indicators not only of achievement but also of teacher effectiveness. It may be that the downgrading of the importance of student assessment by teachers is related to teachers’ perceptions of the quality of prescribed assessment instruments and procedures. These perceptions will be discussed later in the study. At this juncture it may be noted that 50% of those surveyed shared opinions expressed by interviewees that “many assessment instruments are poor”.

### **Teachers’ levels of satisfaction with their jobs**

Interviewees’ reports suggested that teacher job satisfaction is related to perceived levels of achievement of desires in teaching, from both subject and person perspectives. To test the level of satisfaction teachers perceive as arising from both subject and person perspectives, the questionnaire invited respondents to indicate their levels of satisfaction on a scale of 1 - 6 (1 low - 6 high).

Tables 8 and 9 show responses to ranges of interviewee comments, from a subject perspective.



Groups	Business & General Studies		Engineering		Science		Building		Totals	
	n	%	n	%	n	%	n	%	n	%
High degree of satisfaction	6	21 (42.0)	18 (62.1)	27 (58.7)	9 (52.9)	75 (52.8)				
	5	20 (40.0)	7 (24.1)	14 (30.4)	4 (23.5)	45 (31.7)				
	4	5 (10.0)	4 (13.8)	3 (6.5)	-	12 (8.5)				
	3	3 (6.0)	-	2 (4.3)	3 (17.6)	8 (5.6)				
	2	1 (2.0)	-	-	-	1 (0.7)				
	1	-	-	-	1 (5.9)	1 (0.7)				
Totals		50 (35.2)	29 (20.4)	46 (32.4)	17 (12.0)	142 (100)				

**Table 8 Degree of satisfaction derived from “passing on knowledge and skills to students” (subject perspective)**

Groups	Business & General Studies		Engineering		Science		Building		Totals	
	n	%	n	%	n	%	n	%	n	%
High degree of satisfaction	6	14 (28.6)	7 (24.1)	20 (43.5)	6 (37.5)	47 (33.6)				
	5	14 (28.6)	10 (34.5)	12 (26.1)	2 (12.5)	38 (27.1)				
	4	16 (32.7)	8 (27.6)	10 (21.7)	2 (12.5)	36 (25.7)				
	3	4 (8.2)	3 (10.3)	3 (6.5)	6 (37.5)	16 (11.4)				
	2	1 (2.0)	1 (3.4)	1 (2.2)	-	3 (2.1)				
	1	-	-	-	-	-				
Totals		49 (35.0)	29 (20.7)	46 (32.9)	16 (11.4)	140 (100)				

**Table 9 Degree of satisfaction derived from “seeing students pass their assessments” (subject perspective)**

“Passing on knowledge and skill” (Table 8) is rated 4 -6 by 93% of respondents; “Seeing students pass assessments” (Table 9) is rated 4 -6 by 86.4%.these results tent to indicate that the process of teaching confers high levels of satisfaction to more teachers than the product of teaching, measured in terms of student achievement.

To test the levels of satisfaction which teachers derive from a person perspective the questionnaire asked respondents to record the levels of satisfaction gained from “building self-esteem and confidence in students” and from “developing good relationships with students.” These two aspects of teaching were drawn from interviewee comments related to a person perspective of teaching. The response rates are shown in Tables 10 and 11 respectively.

Groups	Business & General Studies		Engineering		Science		Building		Totals	
	n	%	n	%	n	%	n	%	n	%
High degree of satisfaction	6	22 (44.0)	8	(27.6)	21	(45.7)	7	(43.8)	58	(41.1)
	5	18 (36.0)	11	(37.9)	15	(32.6)	3	(18.8)	47	(33.3)
	4	8 (16.0)	8	(27.6)	10	(21.7)	4	(25.0)	30	(21.3)
	3	1 (2.0)	2	(6.9)	-	-	2	(12.5)	5	(3.6)
	2	1 (2.0)	-	-	-	-	-	-	1	(0.7)
	1	-	-	-	-	-	-	-	-	-
Totals		50 (35.5)	29 (20.6)		46 (32.6)		16 (11.3)		141	(100)

**Table 10 Degree of satisfaction derived from “building self-esteem and confidence in students. (person perspective)**

Groups	Business & General Studies		Engineering		Science		Building		Totals	
	n	%	n	%	n	%	n	%	n	%
High degree of satisfaction	6	19 (38.0)	4	(13.8)	13	(28.3)	4	(23.5)	40	(28.2)
	5	13 (26.0)	10	(34.5)	13	(28.3)	3	(17.6)	39	(27.5)
	4	14 (28.0)	9	(31.0)	13	(28.3)	4	(23.5)	40	(28.2)
	3	4 (8.0)	5	(17.2)	6	(13.0)	6	(35.3)	21	(14.8)
	2	-	1	(3.4)	1	(2.2)	-	-	2	(1.4)
	1	-	-	-	-	-	-	-	-	-
Totals		50 (35.2)	29 (20.4)		46 (32.4)		17 (12.0)		142	(100)

**Table 11 Degree of satisfaction derived from “developing good relationships with students” (person perspective)**

Teaching, when perceived from a person perspective, is related to the process of interacting with students which cannot be entirely divorced from the “content” or “subject” of the teaching.

The effectiveness of teaching, when perceived from a subject perspective, may be measured by the application of assessment instruments, but when perceived from a person perspective takes the form of the value judgments of the teachers, related to their interpretations of students’ attitudes and behaviours.

The (%) responses at the top three ratings in Tables 8-11 were collapsed as shown in Table 12.

Build confidence and self-esteem of students (table 10)	95.7 %
Pass on knowledge and skills to students (table 8)	93.0 %
Seeing students pass their assessments (table 9)	86.4 %
Developing relationships with students (table 11)	83.9%

**Table 12 Sources of satisfaction gained by teachers in their role of teaching**

The response levels in Table 12 suggest that substantial majorities of teachers interpret teaching from subject and person perspectives and that both provide sources of satisfaction for teachers.

The data in Table 12 tends to support the contentions that subject and person perspectives are theoretical concepts which help to describe how teachers interpret “teaching”, and that few, if any, teachers can simply be described stereotypically as more or less exclusively “subject” or “person” oriented.

**Interim summary of teachers’ interpretations of the role of teaching**

The data in Tables 1 - 12 suggest that the main constructs which emerged from analysis

of interview transcripts are generally shared by a majority of respondents to the questionnaire.

How F.E. teachers interpret the role of teaching may be summarised as follows :

1. The title lecturer as used in further education is more indicative of the position which an individual occupies within the education hierarchy than descriptive of how they interpret their role.
2. The vast majority of F.E. lecturers consider their role to be that of a teacher. (Table 1)
3. The concepts of “subject” and “person” perspective are related to how teachers interpret the role of teaching. These perspectives are not mutually exclusive and the majority of F.E. teachers perceive their roles simultaneously from both of these perspectives (Tables 2, 4).
4. The majority of teachers consider that it is important to them that students pass their assessments (Table 4), that they help students in their personal development (Table 5), and that they have good relationships with their students (Table 6).
5. Of the two perspectives, teachers rate person perspectives marginally higher than subject perspectives (Table 7).
6. Teachers derive high levels of satisfaction from their perceptions of their roles from both a subject perspective (Table 8, 9) and a person perspective (Table 10, 11).
7. Teachers appear to derive the highest levels of satisfaction from building self-esteem and confidence in students (Table 12).

These propositions appear to support the broad conclusions drawn from interview

transcripts, i.e. that teachers have a desire to bring about changes in their students both from subject and person perspectives.

**Open Question : “How would you describe your job?”**

The analysis of interview transcripts suggested that, in describing their jobs, F.E. teachers focused substantially on their roles as teachers; other aspects of their work were valued by the extent to which they facilitated or obstructed teachers’ interactions with students.

Responses to the above question supported this impression:

Helping students learn; inform; instruct; train; communicating with students; creating interest for students; opening students’ horizons; enjoying working with students; helping people learn; motivating students; confidence builder; facilitator; assisting students; directing students; being a catalyst in a learning situation.

Finally from the analysis of interview transcripts, and also the quantitative data and responses to open questions within the questionnaire, it would seem that the major focus of subjects of the study is a desire to bring about anticipated change in their students from both subject and person perspectives. From a methodological point of view, this stage of the analysis also indicated that the concepts of subject and person perspective have been saturated.

**(iii) Teachers’ Evaluations of Their Jobs**

When talking about their jobs, interviewees tended to employ more positive than negative constructs. The negative constructs were often used to qualify what was initially a positive construct.

To test the generalisability of these constructs, the questionnaire invited respondents to indicate their agreement with series of statement “I would describe my job as .....

Table 13 and 14 summarise the positive and negative perceptions of teachers in describing their jobs.

Groups	Business & General Studies		Engineering		Science		Building		Totals	
	n	%	n	%	n	%	n	%	n	%
Challenging	38	(74.5)	20	(69.0)	40	(85.1)	17	(94.4)	115	(79.3)
Interesting	40	(78.4)	21	(72.4)	37	(78.7)	12	(66.7)	110	(75.9)
Satisfying	21	(41.2)	14	(48.3)	33	70.2	13	(72.2)	81	(55.9)
Enjoyable	26	(51.0)	9	(31.0)	32	(68.1)	10	55.6	77	(53.1)
Likeable	11	(21.6)	8	(27.6)	11	(23.4)	7	(38.9)	37	(25.5)
Best job there is	4	(7.8)	2	(6.9)	8	(17.0)	1	(5.6)	15	(10.3)
Tremendous	3	(5.9)	-	-	4	(8.5)	-	-	7	(4.8)
Like a hobby	-	-	2	(6.9)	3	(6.4)	2	(11.1)	7	(4.8)
Comfortable	-	-	2	(6.9)	2	(4.3)	2	(11.1)	6	(4.1)
Nice	2	(3.9)	1	(3.4)	2	(4.3)	-	-	5	(3.4)
Totals	51	(35.0)	29	(20.0)	47	(32.4)	18	(12.4)	145	(100)

**Table 13 Teachers' positive perceptions of their jobs**

Stressful	44	(86.3)	18	(62.1)	33	(70.2)	12	(66.7)	107	(73.8)
Frustrating	35	(68.6)	20	(69.0)	24	(51.1)	9	(50.0)	88	(60.7)
Totals	51	(35.0)	29	(20.0)	47	(32.4)	18	(12.4)	145	(100)

**Table 14 Teachers' negative perceptions of their jobs**

Tables 13 and 14 show the extent to which certain important constructs employed by interviewees were shared by respondents to the questionnaire, and suggest that a majority of teachers perceive their jobs from both positive and negative perspectives. In interview transcripts teachers' statements often associated positive job satisfaction with the classroom-related aspects of their role.

To test this relationship, the questionnaire invited subjects to respond to the open

question “What gives you the greatest satisfaction in your job?” Answers to this question appeared to support earlier findings from interviews transcripts in which job satisfaction was said to be related to the teacher’s role within classroom situations. The greatest source of job satisfaction appears to be teachers’ interaction with their students, and how successfully they satisfy their desires to bring about changes within their students. Answers to the above question which were related to the **outcomes**, or **product**, of teachers’ interactions included:

Building confidence and seeing students achieve “their goals”; seeing the blinkers drop off students; seeing students achieve places in higher education; student achievement; watching them develop, eg from an insecure adult returner to a confident, mature, participant in discussion; student success in achieving their objectives - whatever they may be; student success; seeing students develop; students achieving learning outcomes and developing confidence; students gaining confidence and skills; students passing assessments; success of students and consequently the success of the division; seeing students achieve their own goals; working with students and seeing their confidence, self-esteem and knowledge progress; seeing students develop over the course; seeing students coping with new skills/knowledge; seeing students gain confidence personally and in chosen subject area; seeing mature students lacking in confidence, lower self-esteem, build up a knowledge and skill base which gave them confidence and ability to join the work-force; seeing students develop as the course continues and being able to carry out new skills; seeing actual understanding of what I’m trying to teach them; students finding employment; to see a keen and interested student of low academic ability reach required standard; the student who “suddenly” gets the point; seeing student achievement, student progression, seeing students being successful; watching students develop; seeing students gaining “insight” by discussion; a good student getting a good pass; helping students to achieve their potential; developing students into well-rounded engineers; students producing a good end result; student completing the course with a consistent high standard of work; student personal and academic achievement; seeing participants grow and develop; when students develop a

sense of achievement; helping students to understand meaningfully; seeing improvement in student performance; students learning cognitive skills; being there when the penny drops; enjoyment and achievement of students; their overall development; seeing students' improvement; seeing students progress and being successful; seeing students develop their capacity to think; student enjoyment; high awareness; high self-esteem; watching students develop skills in confidence; students gaining employment; students progressing to higher courses or jobs; seeing students develop as a person; encouraging students to achieve what they thought was not possible; seeing students achieve their objectives.

Comments which related to the **process** of teaching included:

making sure students enjoy their time in class; when the students file out at course end and insist on shaking hands; teaching my students; seeing students learn; relationships with students, seeing them develop in confidence and maturity; teaching; students learning happily; a group of students enjoy my class; student relationships; teaching/learning. sharing; students learning and enjoying learning; good relationships with students and colleagues; interaction with students; seeing people enjoy education; getting people able to do; student enthusiasm to learn; teaching students who are interested in learning; working with students; helping students learn and facilitating their progress; being able to relate to students competently and professionally; a good session in class where things go well and students learn; teaching the students; working with people/students; taking students through the learning progress and seeing them develop confidence.

These responses indicate that the greatest source of satisfaction for teachers is derived from classroom teaching, and within that, from delivering both the process and the product of teaching for the benefit of their students.

Reports in interviews suggested that the teaching process was generally perceived positively, some references were made to students' negative attitudes and behaviours which were perceived by the teachers as sources of stress and/or frustration.



This relationship was tested by including in the questionnaire an open question “What do you resent most about your job?”

Typical answers to this question which related to teaching are shown below:

Having to prepare re-sit assessment papers for capable students who used the first assessment as a tutorial guide; students who have performed poorly and blame it on the staff/system; disciplining unruly students; students who deliberately resist your attempts to assist them; students “working” the modular system and gaining a qualification they do not deserve.

These comments suggest that although the teaching process is in general perceived positively, when students’ responses contradict the desires of the teacher, this may give rise to stress and/or frustration being experienced by the teacher.

### **Interim Summary**

On the basis of the questionnaire items used and the data resulting, some general summary statements about responders’ evaluation of the job of teaching may be offered: 1, 2, 3, 4. It is perhaps of interest to note that positive perspectives of job and sources of satisfaction on the one hand, and negative perspectives and sources of stress or frustration on the other are not simply and consistently correlated with the classroom teaching and non-teaching aspects of the job, respectively.

1. Teachers perceive the role of teaching positively.
2. The function of teaching is a major source of job satisfaction.
3. Students’ attributes which teachers consider to impede the achievement of their desires in the role of teaching are possible sources of stress/frustration for the teacher.

4. The reports of teachers suggests that they “appreciate” many more aspects of their role of teaching than they “resent.”

**(iv) The Changing Role of F.E. Teachers**

Interviewees made a number of references to the increasing demands over time being placed upon them, in particular the variety of students and student groups they were expected to teach. The interviewees also reported increased demands placed upon them to teach subjects in which they may have had less academic, professional or teaching experience. The impression conveyed by interviewees was that these demands created stress in those teachers who considered themselves to be ill-prepared through lack of training and time for preparation.

To test the extent to which these perceptions were shared by teachers in the population, respondents to the questionnaire were asked to indicate their agreement with statements reported by interviewees which referred to the changing demands which they experienced in their role as teachers. The responses to these statements are shown in Table 15.

Groups	Business & General Studies		Engineering		Science		Building		Totals	
	n	%	n	%	n	%	n	%	n	%
I teach a wide variety of students	42	(82.4)	18	(62.1)	40	(85.1)	10	(55.6)	110	(86.9)
I teach a wide variety of subjects	38	(74.5)	18	(62.1)	26	(55.3)	9	(50.0)	91	(62.8)
My job is subject to a lot of variation	33	(64.7)	12	(41.4)	26	(55.3)	8	(44.4)	79	(54.5)
Totals	51	(35.0)	29	(20.0)	47	(32.4)	18	(12.4)	145	(100)

**Table 15 Variation in the role of F.E. teachers**

The figures in Table 15 show that more than half of those surveyed agree that the job of an F.E. teacher is subject wide variation and that the greatest source of variation is in the range of students they are required to teach.

## **(v) Perceptions of Students' Attributes**

Analysis of interview data suggested that a major source of variation in F.E. teachers' jobs was in the student population they taught. Students were reported to vary in age from school link students in their early teens to senior citizens, with the majority of students in the age range 16 - 25. Some classes were reported to consist of students within a narrow age range while other classes consisted of a wide age range of students. The age range of their students both in general and within groups, was a major aspect of teachers' perceptions of students. Interviewee data indicated that other key aspects were student behaviour, ability, and motivation.

Respondents identified students' possession of certain attributes as a positive contribution to achievement and therefore satisfaction in their teaching, from both subject and person based perspectives. Not surprisingly, students' lack of such attributes were reported in negative terms, and as hampering achievement leading to dissatisfaction, stress and frustration.

In attempting to test the generalisability of the attributes identified by interviewees, avoiding leading questions, all of the attributes reported by interviewees were presented in the questionnaire in a positive mode (with the one exception of "sultry"). The response rates of those surveyed are shown for each attribute in Tables 16 -26 below, and for ease of comparison the figures in the totals columns of these tables are aggregated in Table 27. The tables have been arranged in descending order of response rates.

Groups	Business & General Studies		Engineering		Science		Building		Totals	
	n	%	n	%	n	%	n	%	n	%
All well behaved	11	(22.0)	-	-	10	(21.7)	-	-	21	(14.8)
Most	35	(70.0)	24	85.7	29	(63.0)	8	(44.4)	96	(67.6)
Some	4	(8.0)	4	(14.3)	7	(51.2)	10	(55.6)	25	(17.6)
None	-	-	-	-	-	-	-	-	-	-
Totals	50	(35.2)	28	(19.7)	46	(32.4)	18	(12.7)	142	(100)

**Table 16 Students' attributes "well behaved"**

Groups	Business & General Studies		Engineering		Science		Building		Totals	
	n	%	n	%	n	%	n	%	n	%
All	4	(7.8)	-	-	3	(6.5)	-	-	7	(4.9)
Most	33	(64.7)	14	(50.0)	25	(54.3)	4	(22.2)	76	(53.1)
Some	14	(27.5)	13	(46.4)	18	(39.1)	14	(77.8)	59	(41.3)
None	-	-	1	(3.6)	-	-	-	-	1	(0.7)
Totals	51	(35.7)	28	(19.6)	46	(32.2)	18	(12.6)	143	(100)

**Table 17 Students' attributes "interested in learning"**

Groups	Business & General Studies		Engineering		Science		Building		Totals	
	n	%	n	%	n	%	n	%	n	%
All	2	(3.9)	-	-	3	(6.5)	1	(5.6)	6	(4.2)
Most	26	(51.0)	15	(53.6)	24	(52.2)	6	(33.3)	71	(49.7)
Some	23	(45.1)	13	(46.4)	19	(41.3)	11	(61.1)	66	(46.2)
None	-	-	-	-	-	-	-	-	-	-
Totals	51	(35.7)	28	(19.6)	46	(32.2)	18	(12.6)	143	(100)

**Table 18 Students' attributes "Capable"**

Groups	Business & General Studies		Engineering		Science		Building		Totals	
	n	%	n	%	n	%	n	%	n	%
All	4	(7.8)	-	-	1	(2.1)	-	-	5	(3.5)
Most	10	(19.6)	5	(17.9)	14	(29.8)	1	(5.6)	30	(20.8)
Some	37	(72.5)	22	(78.6)	32	(68.1)	17	(94.4)	108	(75.0)
None	-	-	1	(3.6)	-	-	-	-	1	(0.7)
Totals	51	(35.4)	28	(19.4)	47	(32.6)	18	(12.5)	144	(100)

**Table 19 Students attributes “Mature in age”**

Groups	Business & General Studies		Engineering		Science		Building		Totals	
	n	%	n	%	n	%	n	%	n	%
All	3	(5.9)	-	-	1	(2.2)	-	-	4	(2.8)
Most	13	(25.5)	6	(21.4)	14	(31.1)	2	(11.1)	35	(24.6)
Some	35	(68.6)	21	(75.0)	30	66.7	16	(88.9)	103	(71.8)
None	-	-	1	(3.6)	-	-	-	-	1	(0.7)
Totals	51	(35.9)	28	(19.7)	45	(31.7)	18	(12.7)	142	(100)

**Table 20 Students’ attributes “Mature in attitude”**

Groups	Business & General Studies		Engineering		Science		Building		Totals	
	n	%	n	%	n	%	n	%	n	%
All	2	(4.1)	-	-	4	(8.9)	-	-	6	(4.3)
Most	6	(12.2)	3	(11.5)	6	(13.3)	1	(5.6)	16	(11.6)
Some	39	(79.6)	20	(76.9)	35	(77.8)	15	(83.3)	109	(79.0)
None	2	(4.1)	3	(11.5)	-	-	2	(11.1)	1	(5.1)
Totals	49	35.5	26	(18.8)	45	(32.6)	18	(13.0)	138	(100)

**Table 21 Students’ attributes “Skilled”**

Groups	Business & General Studies		Engineering		Science		Building		Totals	
	n	%	n	%	n	%	n	%	n	%
All	5	(9.8)	-	-	1	(2.2)	-	-	6	(4.2)
Most	10	(19.6)	2	(7.1)	11	(23.9)	-	-	23	(16.1)
Some	33	(64.7)	23	(82.1)	33	(7.7)	16	(88.9)	105	(73.4)
None	3	(5.9)	3	(10.7)	1	(2.2)	2	(11.1)	9	(6.3)
Totals	51	(35.7)	28	(19.6)	46	(32.2)	18	(12.6)	143	(100)

**Table 22 Students' attributes "Highly motivated"**

Groups	Business & General Studies		Engineering		Science		Building		Totals	
	n	%	n	%	n	%	n	%	n	%
All	6	(6.0)	-	-	2	(4.4)	-	-	5	(3.5)
Most	18	(36.0)	9	(32.1)	16	(35.6)	2	(11.1)	45	(31.9)
Some	28	(56.0)	18	(64.3)	27	(60.0)	16	(88.9)	89	(63.1)
None	1	(2.0)	1	(3.6)	-	-	-	-	2	(1.4)
Totals	50	(35.5)	28	(19.9)	45	(31.9)	18	(12.8)	141	(100)

**Table 23 Students' attributes "Responsible"**

Groups	Business & General Studies		Engineering		Science		Building		Totals	
	n	%	n	%	n	%	n	%	n	%
All well behaved	3	(5.9)	1	(3.6)	-	-	-	-	4	(2.8)
Most	8	(15.7)	9	(32.1)	7	(15.6)	1	(5.6)	25	(17.6)
Some	39	(76.5)	17	(60.7)	37	(82.2)	16	88.9	109	(76.8)
None	1	(2.0)	1	(3.6)	1	(2.2)	1	5.6	4	(2.8)
Totals	51	(35.9)	28	(19.7)	45	(31.7)	18	(12.7)	142	(100)

**Table 24 Students' attributes "Confident"**

Groups	Business & General Studies		Engineering		Science		Building		Totals	
	n	%	n	%	n	%	n	%	n	%
All	3	(5.9)	-	-	1	(2.2)	1	(5.6)	5	(3.5)
Most	19	(37.3)	11	(39.3)	20	(43.5)	3	(16.7)	53	(37.1)
Some	27	(52.9)	17	(60.7)	25	54.3	14	(77.8)	83	(58.0)
None	2	(3.9)	-	-	-	-	-	-	2	(1.4)
Totals	51	(35.7)	28	(19.6)	46	(32.2)	18	(12.6)	143	(100)

**Table 25 Students' attributes "Able"**

Groups	Business & General Studies		Engineering		Science		Building		Totals	
	n	%	n	%	n	%	n	%	n	%
All	-	-	-	-	-	-	-	-	-	-
Most	1	(3.2)	3	(12.0)	-	-	1	(6.9)	5	(4.7)
Some	19	(61.3)	21	(84.0)	27	(75.0)	11	(73.3)	78	(72.9)
None	11	(35.5)	1	(4.0)	9	(25.0)	3	(20.0)	24	(22.4)
Totals	31	(29.0)	25	(23.4)	36	(33.6)	15	(14.0)	107	(100)

**Table 26 Students' attributes "Sultry"**

Table 27 below shows the comparative responses of the total population; it is, in effect, a summary of the information contained in Tables 16-26.

Groups	All		Most		Some		None		Totals	
	n	%	n	%	n	%	n	%	n	%
Well behaved	21	(14.8)	96	(67.6)	25	(17.6)	-	-	142	(100)
Interested in learning	7	(4.9)	76	(53.1)	59	(41.3)	1	(0.7)	143	(100)
Capable	6	(4.2)	71	(49.7)	66	(46.2)	-	-	143	(100)
Mature in age	5	(3.5)	53	(37.1)	83	(58.0)	2	(1.4)	144	(100)
Mature in attitude	4	(2.8)	35	(24.6)	103	(71.8)	1	(0.7)	142	(100)
Skilled	6	(4.3)	16	(11.6)	109	(79.0)	1	(5.1)	138	(100)
Highly motivated	6	(4.2)	23	(16.1)	105	(73.4)	9	(6.3)	143	(100)
Responsible	5	(3.5)	45	(31.9)	89	(63.1)	2	(1.4)	141	(100)
Confident	4	(2.8)	25	(17.6)	109	(76.8)	4	(2.8)	142	(100)
Able	5	(3.5)	53	(37.1)	83	(58.0)	2	(1.4)	143	(100)
Sultry	0	(0.0)	5	(4.7)	78	(72.9)	24	(22.4)	107	(100)
Totals	51	(35.0)	29	(20.0)	47	(32.4)	18	(12.4)	145	(100)

**Table 27 Comparative table of students' attributes reported by F.E. teachers**

It can be seen from Table 27 that over 50% of respondents agreed that all, or most of their students were "well behaved", "interested in learning", and "capable."

The figures derived from the survey data lend support to the reports of those interviewed, that students are perceived by F.E. teachers to vary in the attributes they possess.

Survey responses to the open question "How would you describe your students?" support the impression gained from interview data that students in F.E. are perceived by F.E. teachers to vary in their attributes and attitudes and also lend support to the observation that teachers tend to categorise such characteristics positively or negatively according to how they influence the achievement of the teachers' subject/person perspective desires.



## **Comments related to “behaviour of students”**

### **Negative comments :**

a handful; those who are on YT, disinterested in the main and tend to upset the few who are; on the whole fine, but one or two who create waves.

### **Positive comments :**

Friendly and generally hard-working; responsible and responsive; the majority are pleasant and hard working; mostly stressed by their jobs but eager to update, and therefore easily challenged and motivated; very interesting to teach, a lot of different backgrounds, experiences etc.; people who want to be there, best part of the job; pleasant with a wide variety of abilities; average but well disciplined with well formed objectives.

## **Comments related to “interested in learning”**

### **Negative comments :**

Little interest in learning, but some interested in “doing”; mainly uninterested in subject; not very interested in learning, mostly there because it’s a job.

### **Positive comments :**

Those who are in employment and mature students who are interested; interested in engineering, wanting to work; willing to learn; anxious to achieve; keen; interested and keen on the whole.

## **Comments related “students’ capabilities”**

### **Negative comments :**

Terrible, they have little educational skills; of poor standard at NC level; in need of basic skills, ie reading, writing and maths; some do not have ability for course they have started; very often need to be told to work on their own; average technical learning abilities.

Some comments did not reflect either positive or negative perceptions and were subsequently categorised as mixed comments. Such comments included:

Of mixed ability; a reasonable bunch infiltrated with a few idiots; varied; all levels of intelligence; some poor, most OK and some very good.

### **Comments related to “motivation”**

Negative comments :

Not motivated and accepted on the wrong course; unmotivated because they know they are there to kill time.

Positive comments :

Motivated; most students are willing and motivated; mature; highly motivated.

### **Comments related to “age”**

Most mature; mixed ages; a wide variety of ages, abilities and experience; very varied 16 - 60;

### **Other comments**

Other answers to the question “How would you describe your students?” suggested that teachers perceive their students as a group of people who have, in some ways, been disadvantaged.

Vulnerable and deserve as good a service as possible; human beings with a bleak future; unskilled teenagers in need of guidance; looking for something to give them hope and meaning in life; most of them are not sure if they have chosen the right course.

A more optimistic view was taken by one teacher who answered the question by saying:

Wonderful people, interesting.

### **Interim Summary**

The summary of response rates shown in Table 27 suggests that, with the exceptions of the attributes "well behaved" and "sultry", more than 90% of F.E. teachers perceived their students to possess one or more of the attributes reported by interviewees.

How students are perceived by teachers seems to be related to what teachers want, or desire to achieve, in their teaching role. Attributes which teachers consider to be conducive to satisfying these desire or wants may be seen as positive attributes, while attributes which teachers consider may adversely affect the possibility of their satisfying these desire or wants were perceived as negative attributes. In ascribing positive or negative attributes to their students, it would seem that the teachers were recognising the differences between actual students and what they might anticipate construe as ideal students.

### **Tentative Propositions**

From the analysis of the interview transcripts and questionnaire data, it may be proposed that:

1. The attributes ascribed to students by most of the respondents to the questionnaire are those related to (1) behaviour (2) interest in learning (3) students' capabilities (4) motivation.

2. Positive student attributes are perceived by teachers as those which contribute to the achievement of the teachers' desires expressed from a subject/person perspective and are related to both the process and product of teaching.
3. Negative attributes are those perceived by the teacher which are likely to inhibit the achievement of the teachers' desires.
4. Over 80% of teachers perceive all, or most of their students to be "well behaved" (82.4% Table 16).
5. Over 50% of teachers perceive all, or most, of their students to be "interested in learning"; "capable" (58% Table 17; 53.9% Table 18).
6. Just over 20% of teachers perceive all, or most, of their students to be "highly motivated" (20.3% Table 22).

From the analysis of interview transcripts and questionnaire data it appears that "perception of student attributes" must be regarded as a major organising category in teachers' conceptual framework of educational processes.

How teachers' perceive their students is likely to have an influence on their decisions in relation to their implementation of educational processes. Ascribing attributes to students is an individual "judgement" or "decision" of the teacher, and may or may not be an accurate representation of "reality." In this respect, the ascription of attributes exhibits critical features of the decision making process, already identified, namely that decision making is internal to the individual and though perhaps "influenced" is not "determined" by external factors.

In accordance with the operational definition of decision adopted within the study, ascribing attributes to students constitutes the making of a decision. Deciding which attributes individual students possess, provides an example of a decision which is not operationalised in action, but may influence other decisions which are operationalised.

**(vi) Teachers' Perceptions of the National Curriculum (Principles and Design)**

The analysis of interview transcripts identified a number of constructs employed by teachers in talking about the National Curriculum. These constructs appeared to be related on the one hand to the philosophy and design of this modular curriculum and, on the other hand, how the curriculum operated in practice. The questionnaire invited respondents to indicate their agreement/disagreement with interviewees' reports related to the curriculum.

Interviewees had reported that the modular curriculum provided a number of advantages to students and appeared generally to support the philosophy of this type of curriculum. Table 28 shows the response rates of those who agreed with a range of statements, derived from the constructs from interview transcripts, of the form : "In my opinion the modular system is .....".

	Business & General Studies		Engineering		Science		Building		Totals	
	n	%	n	%	n	%	n	%	n	%
The module system is:										
Flexible	23	(45.1)	6	(20.7)	20	(42.6)	8	(44.4)	57	(39.3)
Open to everybody	24	(47.1)	6	(20.7)	16	(34.0)	3	(16.7)	49	(33.8)
Beneficial for lots of people	14	(27.5)	5	(17.2)	17	(36.2)	4	(22.2)	40	(27.6)
Suited to individual pace of learning	14	(27.5)	4	(13.8)	17	(36.2)	2	(11.1)	37	(25.5)
Good for developing new topics	8	(15.7)	2	(6.9)	12	(25.5)	2	(11.1)	24	(16.6)
Better than the previous system	4	(7.8)	-	-	2	(4.3)	-	-	6	(4.1)
<b>Totals</b>	<b>51</b>	<b>(35.2)</b>	<b>29</b>	<b>(20.0)</b>	<b>47</b>	<b>(32.4)</b>	<b>18</b>	<b>(12.4)</b>	<b>145</b>	<b>(100)</b>

**Table 28 How Teachers perceive the National Curriculum as being Advantageous to Students**

The impression gained from interviews was that the teachers all perceived the modular curriculum positively, but the responses shown in Table 28 suggests that this impression was erroneous and that the enthusiasm with which interviewees talked about the national curriculum was shared by less than 40% of the teachers surveyed. This finding confirms the need to be cautious in generalising from qualitative data and supports Glaser's and Strauss's recommendation that categories which emerge from qualitative data should be amenable to confirmation by quantitative analysis.

The earlier impression should clearly be modified be amended in the light of the responses indicated in Table 28. In particular, it is worthy of note that only 6 of the 145 respondents agreed that the modular curriculum is better than the curriculum it replaced.

The explanation for this low approval rate may be found in the more detailed responses recorded in relation to the design of individual modules, assessment instruments, and interview reports that the system is too fragmented.

Analysis of interview transcripts suggested that some teachers were concerned with the quantity of content contained in particular modules and how this related to the amount of time allocated for teaching and assessment. Perceived mismatches between content and time seem to be dependent upon teachers' perceptions of the ability and motivational level of their student groups. Teachers also expressed concerns related to the perceived quality of assessment instruments and what they saw as the "fragmentation" of subject matter. The response rates are shown in Table 29.

More than 50% of respondents indicated that they agree that the content of some modules is not very well balanced. Whether the content of the module is considered by teachers to be too lean or too full seems to be related to teachers' interpretation of the modular descriptor and their perception of students' attributes.

	Business & General Studies		Engineering		Science		Building		Totals	
	n	%	n	%	n	%	n	%	n	%
The module system:										
Some modules have too much content	32	(62.7)	17	(58.6)	23	(48.9)	13	(72.2)	85	(58.6)
Some modules have too little content	29	(56.9)	16	(55.2)	26	(59.6)	9	(50.0)	80	(55.2)
Many assessment instruments are poor	22	(43.1)	14	(48.3)	27	(57.4)	9	(50.0)	72	(49.7)
The system is too fragmented	22	(43.1)	12	(41.4)	21	(44.7)	8	(44.4)	63	(43.3)
Totals	51	(35.2)	29	(20.0)	48	(32.4)	18	(12.4)	145	(100)

**Table 29 How teachers perceive the design of individual modules, the quality of assessment instruments and fragmentation of subject matter**

Within the design of the modular system, individual modules have a notional minimum time to teach of 40 hours, to allow for the differences in student ability. In practice, however, teachers report that they are often required by their college administration to complete the delivery of each module to their groups within 40 hours. The range of teaching strategies deployed by the teacher may be a factor in whether they interpret modules as being lean or overloaded in content. Some interviewees reported that certain modules were overloaded even for the most able students, and some were lean even for the least able. It seems clear therefore, that whether a module is considered to be lean or overloaded in content is in all cases a “decision” arrived at by individual teachers.

The concern of some teachers that some of their modules are unbalanced would perhaps not be so great if they were allowed to balance the time allocated over a group of modules to suit their particular students, but the practice of standardisation of time allocation per module or unit by college administration precludes this possibility in many colleges.

Almost 50% of respondents indicated they consider “many assessment instruments to be poorly designed” and that the modular system is “too fragmented.”

The belief that many assessment instruments are poorly designed may be partially explained by how they came into being.

As described earlier in the study, the National Curriculum was introduced at great speed: cognate groups of F.E. teachers were brought together for a few days and given the task of developing modules, including their assessment instruments. Prior to the introduction of the National Curriculum, F.E. teachers were concerned with teaching to a conventional syllabus, and assessment was conducted by national examination bodies who had over a long period of time acquired a high level of expertise in setting and scoring tests. In such a system, the role of the teacher was separated from the role of the summative assessor.

The speed with which the new system was introduced and continued to be operated militated against F.E. teachers in their cognate groups acquiring the necessary expertise as assessors.

This situation was well known to the curriculum designers (Scotvec) and provision was made for modules to be evaluated, and assessment instruments re-written where necessary; consequently, a number of modules were revised fairly quickly after the introduction of the modular curriculum. At the time the questionnaire was administered the modular system had been in operation for some three years, during which time revision of existing modules and assessments was ongoing but new modules were continually being introduced. Interviewees reported that they were tasked with delivering the new modules and were often simultaneously involved in the development of modular units for Higher National certification. This increased the workload of a number of F.E. teachers to such an extent that revising modules and their assessment instruments became a low priority for college administration in deploying their staff resources. That almost half of the respondents indicated agreement that some modules and some assessment instruments are poorly designed, cannot be considered to be in itself, valid evidence



regarding the quality of modules or assessment instruments, but is relevant to the present study, in that it suggests that their perceptions, of the curriculum valid or invalid, appear to form a major part of teachers' conceptual framework of educational processes.

### **Fragmentation of learning**

Almost half of the respondents agreed with the statement, as a curriculum that the modular system is too fragmented. Fragmentation is perceived to arise from the practice in colleges of programming modules as discrete learning and assessment experiences. Other teachers reported that groups of modules were taught and assessed as entities, overcoming problems of imbalance of content between individual modules, facilitating the integration of modules and avoiding fragmentation of learning.

### **The curriculum in practice**

The data in Table 30 summarise the response rates of the total population to key statements from interview transcripts on this topic.

	Business & General Studies		Engineering		Science		Building		Totals	
	n	%	n	%	n	%	n	%	n	%
The module system:										
Encourages learning and forgetting	38	(74.5)	20	(69.0)	31	(66.0)	16	(88.9)	105	(72.4)
Allows too many re-sits	26	(51.0)	16	(55.2)	28	(59.6)	15	(83.3)	85	(58.6)
Discourages students from working hard	30	(60.8)	16	(55.2)	23	(48.9)	10	(55.6)	79	(54.5)
Involves too much paper work	31	(60.8)	15	(51.7)	20	(42.6)	12	(66.7)	78	(53.8)
Totals	51	(35.2)	29	(20.0)	48	(32.4)	18	(12.4)	145	(100)

**Table 30 Teachers' interpretation of the operation of the modular system in practice**

The data in Table 30 tend to show support with the interviewees' reports.

Teachers perceived the programming of modules as discrete units of learning as discouraging the retention of learning; once the outcome of a module had been overtaken the modular content was never re-visited. This approach was perceived as creating pressure to assess students before they were properly prepared. Students sometimes abused the regulations permitting the resitting of assessments by using early attempts as a dummy runs; this practice was considered disruptive to their teaching intentions and unfair to other students. The facility to resitting assessments was reported by some interviewees as discouraging students from working hard.

### Grading System within the Modular Curriculum

Interviewees' reports suggested that teachers were in favour of a grading system being introduced into the national curriculum to enhance student motivation. The data in Table 31 summarise the responses of the total population to the key statements.

	Business & General Studies		Engineering		Science		Building		Totals	
	n	%	n	%	n	%	n	%	n	%
The module system:										
There should be a grading system	30	(58.8)	12	(41.4)	25	(53.2)	15	(83.3)	82	(56.6)
A grading system would motivate students	34	(66.7)	16	(55.2)	24	(51.1)	11	(61.1)	85	(58.6)
Totals	51	(35.2)	29	(20.0)	48	(32.4)	18	(12.4)	145	(100)

**Table 31 Teachers' views regarding the suggestion that a grading system should be introduced into National Certificate modules**

### Interim Summary

Table 32 summarises totals columns of Tables 28, 29 and 30 in descending order. The figures in Table 32 support the impression gained from the interviews that teachers tend

to construe elements of the educational process from positive and negative perspectives, expressed as appreciations or resentments, and related to the extent to which their professional desires are satisfied.

### **Resentments, Opinions, and Appreciations**

		%	n
<b>R</b>	Encourages learning and forgetting (Table 30)	72.4	145
<b>R</b>	Too many resits of assessments (Table 30)	58.6	145
<b>R</b>	Some modules have too much content (Table 29)	58.6	145
<b>O</b>	A grading system would motivate students (Table 31)	58.6	145
<b>O</b>	There should be a grading system (Table 31)	56.6	145
<b>R</b>	Some modules have too little content (Table 29)	55.2	145
<b>R</b>	Discourages students from working hard (Table 30)	54.5	145
<b>R</b>	Many assessment instruments are poor (Table 29)	49.7	145
<b>R</b>	The system is too fragmented (Table 29)	43.3	145
<b>A</b>	The system is flexible (Table 28)	39.3	145
<b>A</b>	The system is open to everybody (Table 28)	33.8	145
<b>A</b>	The system is beneficial for lots of people (Table 28)	27.6	145
<b>A</b>	The system is suited to individual pace of learning (Table 28)	25.5	145
<b>A</b>	The system is good for developing new topics (Table 28)	16.6	145
<b>A</b>	The system is better than the previous system (Table 28)	4.1	145

**Table 32 Response rates of Teachers in Agreement with the Listed Statements. (R= Resentments, O=Opinions, A=Appreciations)**

The responses shown in Table 32 were considered to be relevant to the present study in that teachers perceptions of the design and administration of the curriculum, students' responses to the provision for re-sitting assessments and of the absence of a grading system, are likely to affect teachers' perceptions of the degree of autonomy they possess in decision making.

The data in Table 32 suggest that the consensus of F.E. teachers is skewed towards resentment with respect to perceptions of the design and implementation of the National Curriculum.

### **Open Questions**

In an attempt to gain a deeper insight into how teachers interpret the curriculum, three open questions were included in the questionnaire: “What do you think is good about the modular system?”; “What do you think is poor about the modular system?”; “What aspects of the modular system would you like to change?”

The responses to these questions suggested that F.E. teachers’ appreciations of the modular system are related to the philosophy of the system and the practical benefits it offers students.

Answers to the question “What do you think is good about the modular system?”:

Encourages “less able” to learn and achieve; allows students to work and develop at their own pace; continuous assessment can be good for many students; confidence builder; there is no exam pressure; flexibility, easy to introduce new modules; access to education is easier; it gives people a second chance - it helps those who have missed out on their education; the choice of subjects for students; catering for different levels of students; tailored courses can be constructed; the broad knowledge required to pass every section of the course; good for returning students; lots of time for slow learners; allows entry into a college regardless of qualifications; it can help build confidence in students - primarily those who fear an examination-based system; allows all candidates a measure of success; allows slow learners to achieve; allows the student to learn in “chunks” but also to integrate the learning - I like the GSVQ approach and feel it is more satisfying to both student and teacher; students can pick up and choose relevant topics; it allows everybody an equal chance.

Such comments support the findings from analysis of interview transcripts in which appreciations of the modular system were also related to the philosophy of the system.

In responding to the question “What do you think is good about the modular system?” a number of teachers took the opportunity to record their resentments of the system by responding negatively.

Nothing - you teach to assessment - 40 hours maximum per module; very little; nothing; not a lot; there are no failures; short term learning; absolutely nothing at all.

Answers to the question “What do you think is poor about the modular system ?” related to the design of the curriculum included:

Fragmented - too much paperwork; assessment system; too fragmented, confusing for potential employers; assessment and verification; standard of assessment; no grading; everything; modules are repetitive; assessment guidelines are sometimes unclear - content can be irrelevant to particular skill area on occasions; assessment - variation between modules, variation between centres, no national standards (despite verifiers); content of some modules; difficult to “not achieve”; emphasis on passing assessment - multi assessments on two or three occasions; poor articulation; almost all aspects; students may re-sit assessments; assessments being internally prepared; far too compartmentalised - too rigid; too many chances for re-assessment; the assessment/there should still be a final examination and grading; covers too much not deeply enough; many benefits don't work in reality, ie flexibility, individual suitability; students don't get benefit from 25 modules when the course requires, say, 30; too easy to bend the rules; most of it; you can get far too many attempts at assessment.

Answers related to students' attitudes included:

Little motivation for students to "move up a gear"; everyone is expected to pass; lack of motivation to work towards something specific - far too easy to pass some of the modules; a godsend for those swinging the lead; encourages laziness - only do what is required to pass assessments but everyone gets the same award - so many have the attitude that minimum effort is required; most can achieve with minimum effort; de-motivating; lack of reward for good work; not motivating; too many re-assessments; no grading system; high achievers lose motivation because of non-grading; some students feel that nothing rewards effort; no motivation to do better than just pass the module; discourages the more able student.

It would seem that the above comments correlate with teachers' reported concerns during interviews in which they expressed a desire for their students to be highly motivated, and that these aspects of the modular system, militated against high levels of motivation.

Both the above categories of comments appear to be indirectly related to teachers' perceptions of the quality of education and training. A number of comments in answer to the question "What do you think is poor about the modular system?" were more specifically related to this aspect.

No retention of learning; learning/pass/forget or ignore/fail/sit/pass/forget; no challenge for students; does not fit readily into rigid college timetables, ie students can't be given the time they need; whilst it is flexible and allows open access, this often leads to students being under or over challenged; it can be very restrictive, lecturers/teachers tend to teach to learning outcomes and not beyond; sometimes assessment is too demanding for competencies which have to be met by the students; little time to reflect on learning before assessment; lowering of standards; amount of repetition - too much training not enough education; replication and time wastage; too much time taken up with assessment/re-assessments; standards at the end of the course are lower in theoretical areas than

pre-modular; too much content and no consolidation time; assessment driven to far too great extent; subject matter often very uninspired; discourages the more able student; does not provide adequate challenge or sound knowledge base; interpretation is wide affecting standards; retention of learning is poor.

These comments seem to be focused upon concerns about the quality of education and training which are provided through the system. As one interviewee stated: "Students are entitled to the very best service we can provide".

### **Interim Summary (Teachers' Perceptions of the National Curriculum)**

The analysis of interview transcripts and survey data may be summarised in the following propositions:

- (1) Teachers' interpretations of the curriculum are related to their perceptions of their role as teachers.
- (2) Teachers interpret the curriculum from a subject perspective, and a person perspective.
- (3) Teachers interpret the curriculum in terms of its effects upon the motivation of students.
- (4) Teachers consider that a grading system would increase levels of students' motivation.
- (5) The over-riding concern of teachers in interpreting the curriculum would appear to be to provide "quality" education and training for students.
- (6) Teachers consider there are inherent design faults within the curriculum system e.g. unbalanced content of modules, invalid assessment instruments.

- (7) Teachers consider that the administration of the modular system within the workplace has an effect upon the quality of teaching and learning and also upon motivation.

Teachers' interpretation of the curriculum and ascription of attributes to students would appear to be two further important major organising categories in the interpretation of educational processes as a whole. These categories are therefore major sources of influence upon teachers' decision making when implementing educational processes.

#### **(vi) Workplace Environment (Management)**

How the work place was managed at departmental and at senior college level emerged from analysis of interview transcripts as a crucial element in how teachers construe educational processes.

The analysis suggested that teachers appreciate managers whom they perceive to be efficient in managing their departments in such a way as to enable teachers to carry out their role of teaching more effectively, and to provide what they consider to be a quality service to their students.

Teachers appeared to resent working in an environment which they perceived to be poorly managed by those whom they considered to be inefficient or confused in carrying out their tasks as managers. The analysis also suggested that teachers perceived their managers from a "people" perspective, with a number of reports alluding to approachability, fairness, helpfulness etc..

Key constructs used by interviewees were included in the questionnaire and respondents asked to indicate their degree of agreement or disagreement.

Tables 33 and 34 show the response rates in relation to Senior Lecturers/Heads of Department and Senior College Managers respectively.



The tables show response rates response rates in decreasing order of magnitude. The responses “strongly agree” and “agree” in Tables 33 and 34 were collapsed and are shown in summary form in Table 35.

	n =	SA		A		D		SD	
		n	%	n	%	n	%	n	%
Approachable	141	34	(24.1)	82	(58.2)	21	(14.9)	4	(2.8)
Fair	131	16	(12.2)	72	(55.0)	34	(26.0)	9	(6.9)
Helpful	132	17	(12.9)	67	(50.85)	41	(31.1)	7	(5.3)
Informed	130	18	(13.8)	56	(43.1)	43	(33.1)	13	(10.0)
Receptive to ideas	138	17	(12.3)	56	(40.6)	50	(36.2)	15	(10.9)
Interested in their staff	133	19	(14.3)	51	(38.3)	52	(39.1)	11	(8.3)
Communicative	136	15	(11.0)	56	(41.2)	49	(36.0)	16	(11.8)
Good listeners	132	15	(11.4)	52	(39.4)	52	(39.4)	13	(9.8)
Democratic	131	16	(12.2)	44	(33.6)	46	(37.1)	25	(19.1)
Efficient	137	10	(7.3)	48	(35.0)	69	(50.4)	10	(7.3)
Informed about their staff	133	10	(7.5)	46	(34.6)	64	(48.1)	13	(9.8)
Confused	128	15	(11.7)	34	(26.6)	55	(43.0)	24	(18.8)
Critical of staff	131	8	(6.1)	41	(31.3)	71	(54.2)	11	(8.4)
Good at giving guidance	131	11	(8.4)	36	(27.5)	61	(46.6)	23	(17.6)

**Table 33 Response rates of teachers to being asked to indicate their degree of agreement with the statement “In my opinion the SLs, Section Heads, HOD, in my department are .....**

The analysis of interview transcripts suggested that teachers appreciate working for managers whom they perceived to possess the attributes in Tables 33, 34 and 35, with the exception of the constructs “confused” and “critical of staff” which were considered by interviewees to be negative attributes. Interviewees’ reports suggested that teachers resent working for managers whom they perceived to possess these negative attributes.

	n =	SA		A		D		SD	
		n	%	n	%	n	%	n	%
Approachable	140	10	(7.1)	70	(50.0)	40	(28.6)	20	(14.3)
Fair	126	3	(2.4)	58	(46.0)	52	(41.3)	13	(10.3)
Helpful	131	4	(3.1)	43	(32.8)	68	(51.9)	16	(12.2)
Informed	129	6	(4.7)	62	(48.1)	51	(39.5)	10	(7.8)
Receptive to ideas	131	3	(2.3)	35	(26.7)	70	(53.4)	23	(17.6)
Interested in their staff	127	5	(3.9)	37	(29.1)	65	(51.2)	20	(15.7)
Communicative	135	4	(3.0)	38	(28.1)	68	(50.4)	25	(18.5)
Good listeners	126	5	(4.0)	33	(26.2)	64	(50.8)	24	(19.0)
Democratic	128	4	(3.1)	22	(17.2)	74	(57.8)	28	(21.9)
Efficient	133	2	(1.5)	37	(27.8)	68	(51.1)	26	(19.5)
Informed about their staff	127	4	(3.1)	27	(21.3)	69	(54.3)	27	(21.3)
Confused	120	10	(8.3)	38	(31.7)	56	(46.7)	16	(13.3)
Critical of staff	122	15	(12.3)	54	(44.3)	44	(36.1)	9	(7.4)
Good at giving guidance	126	4	(3.2)	13	(10.3)	75	(59.5)	34	(27.0)

**Table 34 Response rates of teachers asked to indicate their degree of agreement with the statement “In my opinion the Senior Managers in my college are .....**”

The figures in Table 35 show that Middle Managers were rated between 20 and 30 percentage points higher on constructs which teachers appreciated and 20 percentage points lower on the construct “critical of staff”, while rating on the construct “confused” was virtually the same.

	Middle managers			Senior managers		
	n =	n =	%	n	n	%
Approachable	141	116	(82.3)	140	80	(57.1)
Fair	131	88	(67.2)	126	126	(48.4)
Helpful	132	84	(63.7)	131	47	(35.9)
Informed	130	74	(56.9)	129	68	(52.8)
Receptive to ideas	138	73	(52.9)	131	38	(29.0)
Interested in their staff	133	70	(52.6)	127	42	(33.0)
Communicative	136	71	(52.2)	135	42	(31.1)
Good listeners	132	67	(50.8)	126	38	(30.2)
Democratic	131	60	(45.8)	128	26	(20.2)
Efficient	137	58	(42.3)	133	39	(29.3)
Informed about their staff	133	56	(42.1)	127	31	(24.4)
Confused	128	49	(39.3)	120	48	(40.0)
Critical of staff	131	49	(37.4)	122	69	(56.6)
Good at giving guidance	131	47	(35.9)	126	17	(13.5)

**Table 35 Comparison of teachers' constructs of Middle and Senior Managers. ( From tables 33 and 34 strongly agree/ agree )**

The figures in Tables 33, 34 and 35 present a general impression that the majority of teachers perceive their managers to be lacking in a number of desirable attributes.

The constructs "efficient" and "confused" may be considered to be indicators of Blake's and Mouton's "task" orientation of managers, while the other constructs appeared to be related to Blake's and Mouton's "people" orientation of managers. (Blake and Mouton 1964)

## **Open Questions**

Teachers' perceptions of the effectiveness of the management of their work places was further investigated by including as an open question in the questionnaire: "How well do you think your college is managed?"

Responses to this question appear to support the earlier impression gained from interviewees that teachers tend to categorise their managers in very general terms as "good" or "poor". This broad categorisation was reflected in respondents' comments in response to the open question. After analysis, responses could be identified clearly as either positive or clearly negative, and also as either unqualified or qualified. The following are examples of the combinations of these characteristics.

### **Positive Unequivocal Comments**

Very well indeed- a higher pace of change moving forward from an old regime; excellent; well managed; fairly well; adequate; well managed and good communication channels.

### **Negative Unequivocal Comments**

Not effectively; money is the be- all and end-all of everything; very poorly on the strategic planning and financial stewardship side; badly - too many political manipulations; stumbling from crisis to crisis; college management is very poor and not well thought of by all members of staff at my college; poorly, the culture has to be improved; unfortunately I think there is very little management; very badly - no communications from the top; poorly; deceitfully; man management very poor; communications need to be improved; poorly - we are now being run by accountants; very slack and needs more discipline; much room for improvement especially in communications and consultation;

## **Qualified Positive Comments**

Improving with new Principal; strong in many respects; good overall; I think it is trying to get there; well - communication lines could be improved on the whole; it appears to be attempting to get better; as far as I know it seems to be well managed; satisfactory and improvements in hand.

## **Qualified Negative Comments**

We present a good image but internally there are many problems; not too well - out of touch with reality; could be better managed; tends to be top heavy for college size; poorly, only because management are trying to cope with too many changes in a short period of time.

Some comments did not have a particularly positive or negative connotation, or included both positive and negative elements; these comments were categorised as “mixed”.

## **Mixed Comments**

Going through an expensive period of change; mixed; hard to tell so far although communications might be improved; don't have sufficient detail to evaluate; fairly well regarding finances and opportunities for high staff posts but very poor when lecturing staff are involved; it is difficult to say how well it is managed due to lack of information regarding management policy etc; Principal good - Senior Management invisible; good in some areas, other areas require attention; well run for admin. staff but not as a teaching establishment; as far as I know it seems well run.

The proportion of positive to negative comments is roughly 1:3; and is not far removed in value from the response rates indicated in Table 34 for the construct “efficient” (42.3% for middle managers and 29.3% for senior managers). The response to the question “How well do you think your college is managed?” suggest that teachers interpret “well

managed” substantially in terms of their perceptions of managers’ capabilities in carrying out “task orientated” responsibilities. Analysis of interview transcripts, however suggested that teachers interpret “well managed” in terms of the managers ability to recognise, communicate and support teachers.

These two perspectives appear to correspond closely with Blake’s and Mouton’s model representing managers as either task oriented or people orientated managers. Blake and Mouton (1964) suggest that for an establishment to be well managed, the manager should be orientated both towards “achieving the tasks” of the organisation and towards “managing the people” within the organisation.

### **Interim Summary: Workplace Environment (Management)**

The analysis of interview transcripts and the figures in Tables 33, 34 and 35 suggest that teachers interpretations of their managers are related much more to “people” aspects of management than to the “task” aspects of management.

Covey (1993) differentiates these two aspects by suggesting that management is primarily concerned with “efficiency” in the management of “things”, while the management of people may be considered as a “leadership” function in which the leader is primarily concerned with “mission”: the direction in which people should be encouraged to move. It would seem that teachers have a desire to operate within a work place which is efficiently managed and efficiently led: in essence, it would seem that efficient management and efficient leadership are two sides of the same coin.

In the study of leadership, Adair (1971) proposes a “functional” leadership model in which he argues that the effective leader is one who demonstrates skill, knowledge and expertise in his, or her, concerns for identifying, clarifying, and planning how best to achieve a specific task, and inter-relates these concerns with concerns to build a group, or team of subordinates who exhibit high morale, group cohesion and *esprit de corps*. Adair argues that these two functions are not separate but are overlapping and inter-related with each other, and to a third function of leadership in which the leader is

concerned with the needs of the individual. Adair's model of leadership emphasises the inter-related nature of leaders' concerns for "task", "group" and "individual" and suggests that when one of these aspects is ignored, it will inevitably reduce the leader's effectiveness in the other two aspects.

Both Blake's and Mouton's two-dimensional managerial grid model, and Adair's three-dimensional leadership model serve as exemplars of the literature of management and leadership, a review of which suggests that the concepts of manager and leader are not easily distinguishable. Both managers and leaders are concerned with achieving tasks through other people.

That teachers tend to emphasise the "people" dimension of management, or leadership, is perhaps not too surprising when one considers that education is largely and importantly concerned with the inter-relationships of people: in managers with teachers and teachers with students.

It is interesting to recall that earlier in the study teachers conceptualised their role from both a "subject" perspective and a "people" perspective, teachers therefore seem to perceive themselves as both managers and leaders within their classrooms. In the same way as these two perspectives were seen as not being mutually exclusive, task and people orientations of managers, and leaders, are also inter-related. A subject perspective of teachers may be likened to Blake's and Mouton's, and Adair's concept of "task", while the teachers' person perspectives may be equated to Blake's and Mouton's management orientation towards people and Adair's leadership concerns for group and individuals.

The survey data and reports of teachers concerning college management suggest that teachers conceptualise themselves as managers or leaders in relationship to their students, while conceptualising their college managers primarily as being orientated towards task concerns. While the literature on management and leadership suggests that task and people-orientations and concerns are inter-related, the evidence in the present study shows that teachers perceive these aspects as independent of one another to a greater or lesser extent.

### (vii) Teachers' Perceptions of Relationships

Key constructs which teachers used in talking about relationships during the first interview phase of the study were included as questionnaire items. Tables 36, 37 and 38 show the response rates of the survey population to statements about relationships with students, colleagues and middle managers respectively.

	n =	SA		A		D		SD	
Cooperative	143	45	(31.5)	95	(66.4)	2	(1.4)	1	(0.7)
Enjoyable	140	37	(26.4)	100	(71.4)	3	(2.1)	-	-
Supportive	142	33	(23.2)	105	(73.9)	4	(2.8)	-	-
Good	134	30	(22.4)	100	(74.6)	4	(3.0)	-	-
Pleasant	129	26	(20.2)	97	(75.2)	6	(4.7)	-	-
Friendly	139	34	(24.5)	98	(70.5)	6	(4.3)	1	(0.7)
Motivating	135	35	(25.9)	87	(64.4)	13	(9.6)	-	-
Interesting	134	30	(22.4)	91	(67.9)	12	(9.0)	1	(0.7)
Sharing	136	17	(12.5)	85	(62.5)	34	(25.0)	-	-
Close	132	13	(9.8)	65	(49.2)	54	(40.9)	-	-
Vibrant	127	12	(9.4)	53	(41.7)	58	(45.7)	4	(3.1)

**Table 36 Response rates of teachers asked to rate their level of agreement with the statement “the relationships I have with my students can be described as .....**”



	n =	n	SA %	n	A %	n	D %	n	SD %
Cooperative	143	39	(27.3)	92	(64.3)	9	(6.3)	3	(2.1)
Enjoyable	132	17	(12.9)	92	(69.7)	20	(15.2)	3	(2.3)
Supportive	139	24	(17.3)	90	(64.7)	20	(14.4)	5	(3.6)
Good	131	17	(13.0)	94	(71.8)	16	(12.2)	4	(3.1)
Pleasant	135	16	(11.9)	100	74.1	15	(11.1)	4	(3.0)
Friendly	138	26	(18.8)	94	(68.1)	16	(11.6)	2	(1.4)
Motivating	134	18	(13.4)	64	(47.8)	43	(32.1)	9	(6.7)
Interesting	135	19	(14.1)	93	(68.9)	21	(15.6)	2	(1.5)
Sharing	133	19	(14.3)	85	(63.9)	23	(17.3)	6	(4.5)
Close	131	10	(7.6)	59	(45.0)	56	(42.7)	6	(4.6)
Vibrant	127	7	(5.5)	48	(37.8)	59	(46.5)	13	10.2

**Table 37 Response rates of teachers asked to rate their level of agreement with the statement “the relationships I have with my colleagues can be described as .....**”

	n =	n	SA %	n	A %	n	D %	n	SD %
Cooperative	147	27	(19.1)	82	(58.2)	28	(19.9)	4	(2.8)
Enjoyable	132	13	(9.8)	52	(39.4)	60	(45.5)	7	(5.3)
Supportive	136	18	(13.2)	68	(50.0)	42	(30.9)	8	(5.9)
Good	131	16	(12.2)	71	(54.2)	35	(26.7)	9	(6.9)
Pleasant	127	13	(10.2)	70	(55.1)	38	(29.9)	6	(4.7)
Friendly	132	16	(12.1)	78	(59.1)	33	(25.0)	5	(3.8)
Motivating	133	13	(9.8)	41	(30.8)	56	(42.1)	23	(17.3)
Interesting	131	16	(12.2)	52	(39.7)	54	(41.2)	9	(6.9)
Sharing	130	13	(10.0)	34	(26.2)	74	(56.9)	9	(6.9)
Close	132	12	(9.1)	28	(21.2)	79	(59.8)	13	(9.8)
Vibrant	127	10	(7.9)	26	(20.5)	73	(57.5)	18	(14.2)

**Table 38 Response rates of teachers asked to rate their level of agreement with the statement “the relationships I have with my senior lecturer/head of department can be described as .....**”

It is with these three groups of people that teachers interact on a daily basis in the work place. In related to both the classroom environment and the general work environment, interviewees employed constructs such as “co-operative”, “enjoyable”, “supportive”, and stressed the positive nature of these constructs in their relationships with others, but some teachers identified the absence of these constructs as being associated with negative or undesirable types of relationships. In designing the questionnaire, these constructs were all phrased positively, and respondents invited to indicate the extent of their agreement. During the interviews not all of these constructs were employed with reference to all three groups, but for comparative purposes it was considered appropriate to employ the same constructs in all three questions.

The responses “strongly agree” and “agree” in Tables 36,37 and 38 were collapsed, and are shown in summary in Table 39.

	Students		Colleagues		Senior Staff	
	n	SA/A %	n	SA/A %	n	SA/A %
Cooperative	143	(97.9)	143	(91.6)	141	(77.4)
Enjoyable	140	(97.8)	132	(82.6)	132	(49.2)
Supportive	142	(97.1)	139	(82.0)	136	(63.2)
Good	134	(97.0)	131	(84.8)	131	(66.4)
Pleasant	129	(95.4)	135	(86.0)	127	(65.3)
Friendly	139	(95.0)	138	(86.9)	132	(71.2)
Motivating	135	(90.3)	134	(61.2)	133	(40.6)
Interesting	134	(90.3)	135	(83.0)	131	(51.9)
Sharing	136	(75.0)	133	(78.2)	130	(36.2)
Close	132	(59.0)	131	(52.6)	132	(30.3)
Vibrant	127	(51.1)	127	(43.3)	127	(28.4)

**Table 39 Comparison of teachers’ ratings of strongly agree/agree for the types of relationships they have with their students, colleagues and middle managers (senior lecturers/heads of departments)**

The data are presented in Tables 36-39 in descending order of response rate. The response rates for the top 8 constructs (Table 36) for relationships with students, show a surprising consensus. Over 90% strongly agreed or agreed with these constructs while the remaining 3 constructs were supported by over 50% of respondents; less than 4% of respondents strongly disagreed with the items as presented.

The responses for relationships with colleagues (Table 37) show a drop in responses in comparison with responses related to students, for all constructs in the order of 6-30 percentage points, while the response rates for relationships with middle managers (Table 38) show a further drop in responses from relationships with colleagues in the order of 14-43 percentage points. The descending order of responses can more clearly be seen in Table 39.

These figures strongly suggest that teachers consider their relationships to be more positive with students, less so with colleagues and less still with their middle managers. The data in Table 39 show that this relationship is consistent on all constructs with the exception of “sharing” in which relationships with colleagues were rated 3 percentage points higher than those with students.

Open questions were included in the questionnaire which asked respondents “How would you describe your relationships with your students; colleagues and middle managers ( Head of Department) ?”

After analysis, responses could be identified as either clearly positive or clearly negative and also as unequivocal or qualified. The following are examples of the resulting characteristics:

### **Unequivocal Positive Comments Related to Students**

Great usually; positive - I try to be supportive to my students at all times and fair; good; mutually enjoyable; professional; good I respect them as people and I hope they feel the same about me. A supportive caring relationship. Relaxed and

co-operative. Co-operative and friendly; ninety-nine percent good; adequate; pleasant and friendly; cordial; manageable; very good on a personal basis; friendly; open; good interesting and stimulating; professional caring interested in them; positive, reliable and steady; I get on brilliant with them all; I get on very well with most of them.

### **Unequivocal Negative Comments Related to Students**

No reports.

### **Qualified Positive Comments Related to Students**

Fairly good - but could be improved; good on the whole - very good at times with counselling sessions with some students; good with high achievers, bad with low achievers; strained at times, friendly at others.

a problem with one or two; I tend to keep a distance to allow me to be objective; on the whole fine with those who are interested and motivated; supportive and sometime challenging.

### **Unequivocal Positive Comments Related to Colleagues**

A number of respondents recorded their answers simply as "good" or "very good".

Other positive answers were:

Excellent with most; OK with others; good mutual respect, shared interests; good, one of a team; excellent with the majority; pleasant co-operative and supportive; cordial and pleasant; highly satisfactory; encourages achievement of goals; good, able to share load; it is very good with those in my immediate sector; respectful.

## **Unequivocal Negative Comments Related to Colleagues**

Distrust, I experienced little support and find that I am working in isolation at most times; professional barriers; cautious; incredibly political group; always happy to “stab you in the back”; very mediocre; many colleagues are unapproachable, not very motivated or hard working; too much back stabbing; not going for a common goal.

## **Qualified Mixed Comments Related to Colleagues**

Professional; generally good though some resent all promoted staff as a matter of course; indifferent with some, exciting with others; lukewarm; good with some but poor with old hands; reasonable but at least two of my colleagues seem to feel threatened and their behaviour is often nasty; we work totally independently but social relationships are satisfactory, however people are very careful due to foreseen redundancies; can communicate when we need to.

## **Comparison of Relationships: Students/Colleagues**

Teachers reported a number of positive comments related to both students and colleagues. There were no negative comments reported concerning relationships with students, but a number of comments related to relationships with colleagues were negative. Qualified answers suggested that teachers’ relationships with both students and colleagues are considered as being on a one-to-one basis.

Teachers’ perceptions of relationships with students seemed to be related to student attributes which facilitate or hinder affective teaching and learning, and also students’ responses to teaching and learning. On the other hand, their perceptions of their relations with colleagues appear to be linked to degree of “acceptance” by them.

The responses to the open questions tend to confirm the conclusions drawn from the data in Table 38 in that relationships with students were more positively reported than

relationships with colleagues, but that teachers' perceptions of their relationships with students and colleagues are influenced by different considerations.

### **Unequivocal Positive Comments Related to Middle Managers**

I have a friendly relationship with senior lecturers; very good relationship, we work very much as a team each aware of the responsibilities of the others; long-standing contact very good; immediate senior lecturer excellent, supportive and motivating.

### **Unequivocal Negative Comments Related to Middle Managers**

Head of Department - never seen him; I have been singled out and ridiculed for years by senior staff and head of department; need more support from senior lecturers and head of department; we have to suffer their incompetence; arms' length; more long term planning needed to achieve objectives; detached, not in contact unless something goes wrong; terrible; frustrating; sometimes fraught; isolated, they pay lip service to most of my needs; remote; nil communicado; poor; not interested in my problems.

### **Qualified Comments Related to Middle Managers**

Tolerable; they are too interested in achieving their goals at the expense of others; senior lecturer very supportive; head of department unpredictable; not bad, some I respect, some are useless; friendly but distant; reasonable but a lot of lack of "communications"; good, supportive but communications could be improved; we get on OK most of the time; at times antagonistic; OK but too many chaps doing too little; it is deteriorating because they favour the "doing nothing" in order to keep them happy knowing others are motivated anyway; working well but not open and free to discuss problems.

The proportion of unequivocal positive to unequivocal negative comments in responses

to the open question is in the region of 1:2, while qualified comments were roughly equal in the proportion of positive/negative responses.

These comments support the earlier contention in the study based upon analysis of interview transcripts, that teachers appreciate managers who exhibit empathy with and provide support and guidance to them.

There was no responses to the open question which made reference to college managers. It may be that the teachers do not experience daily interactions with college managers to the same extent that they do with students and colleagues. The evidence from interview transcripts suggest that teachers perceived themselves to be isolated from college managers.

### **Importance of relationships for Teachers**

In the questionnaire teachers were also invited to indicate the degree of importance which they ascribed to having good relationships with students, colleagues and middle managers, the groups with whom teachers regularly interact in the workplace.

The degrees of importance which teachers ascribe to relationships with students was considered earlier in the study and their response rates summarised in Table 6. Their responses with regard to the relationships with the other two groups are shown in Tables 40 and 41.

Degree of Importance	Business & General Studies		Engineering		Science		Building		Totals	
	n	%	n	%	n	%	n	%	n	%
Extremely important	15	(30.6)	9	(33.3)	19	(40.4)	4	23.5	47	(33.6)
Very important	12	(24.5)	8	(29.6)	15	(31.9)	7	(41.2)	42	(30.0)
Important	22	(44.9)	8	(29.6)	13	(27.7)	5	(29.4)	48	(34.3)
Not important	-	-	2	(7.4)	-	-	1	(5.9)	3	(2.1)
Totals	49	(35.0)	27	(19.3)	47	(33.6)	17	(12.1)	140	(100)

**Table 40 Degree of importance which teachers ascribe to having good relationships with their colleagues**

Degree of Importance	Business & General Studies		Engineering		Science		Building		Totals	
	n	%	n	%	n	%	n	%	n	%
Extremely important	11	(22.0)	5	(18.5)	9	(19.1)	2	(12.5)	27	(19.3)
Very important	10	(20.0)	6	(22.2)	13	(27.7)	3	(18.8)	32	(22.9)
Important	23	(46.0)	14	(51.9)	22	(46.8)	8	(50.0)	67	(47.9)
Not important	6	(12.0)	2	(7.4)	3	(6.4)	3	(18.8)	14	(10.1)
Totals	50	(35.7)	27	(19.3)	47	(33.6)	16	11.4	140	(100)

**Table 41 Degree of importance which teachers ascribe to having good relationships with their middle managers**

The response rates from the totals columns of Tables 6, 40 and 41 are shown in Table 42.



Degree of Importance	Students		Colleagues		Senior Staff	
	n	%	n	%	n	%
Extremely important	60	(42.0)	47	(33.6)	27	(19.3)
Very important	44	(30.8)	42	(30.0)	32	(22.9)
Important	36	(25.2)	48	(34.3)	67	(47.9)
Not important	3	(2.1)	3	(2.1)	14	(10.0)
Totals	143	(100.1)	140	(100.0)	136	(100.1)

**Table 42 Comparison of teachers' ratings of importance of relationships**

The responses form a pattern similar to that shown in Table 39 above. Teachers seem, as well as rating positive constructs about relationships with students more highly than those with colleagues (and even more than with managers), also rate the importance of good relationships with these groups in the same order.

### **Interim Summary of Teachers' Perceptions of Relationships**

The analysis of interview transcripts and survey data with regard to college management, may be summarised in the following propositions:

1. Teachers appreciate working in an environment which is efficiently managed and which facilitates the satisfaction of their desires within the teacher role.
2. Teachers appear to be more concerned about people-related than task-related aspects of management as it affects them in the workplace.
3. Middle managers are rated consistently more highly than senior managers in their ability to manage people.
4. How the work place is managed is a major organising category in terms of teachers' conceptualisation of educational processes.

With regard to relationships in the workplace the analysis may be summarised in the following propositions:

1. Teachers appear to perceive their relationships with students more positively and of greater importance than those with colleagues. The perception of satisfactoriness of relationships diminishes with the remaining groups, middle management and senior management.
2. There is considerable disparity in teachers' perceptions of relationships within their classrooms, and within their work places more generally.
3. Teachers tend to interpret the quality of their relationships with colleagues and managers in terms of isolation from, or acceptance by them.
4. The quality of relationships is a major organising category in how teachers conceptualise education processes.

### (viii) College Facilities

During the interview phase of the study F.E. teachers made a number of references to the quality of the facilities available within their work places. Reports varied from "excellent" to "terrible". The facilities which teachers talked about were included as it was in the questionnaire and respondents asked to rate these facilities as excellent, good, adequate or poor. The responses to the questionnaire are shown in Tables 43-48.

Groups	Business & General Studies		Engineering		Science		Building		Totals	
	n	%	n	%	n	%	n	%	n	%
Excellent	7	(13.7)	3	(10.3)	7	(14.9)	3	(16.7)	20	(13.8)
Good	15	(29.4)	13	(44.8)	19	(40.4)	5	(27.8)	52	(35.9)
Adequate	17	(33.3)	9	(31.0)	10	(21.3)	2	(11.1)	38	(26.2)
Poor	12	(23.5)	4	(13.8)	11	(23.4)	9	(44.4)	35	(24.1)
Totals	51	(35.2)	29	(20.0)	47	(32.4)	18	(12.4)	145	(100)

**Table 43 Teachers' ratings of their college library facilities**

Groups	Business & General Studies		Engineering		Science		Building		Totals	
	n	%	n	%	n	%	n	%	n	%
Excellent	-	-	-	-	2	(4.3)	2	(11.1)	4	(2.8)
Good	12	(37.5)	8	(27.6)	13	(27.7)	5	(27.8)	38	(26.2)
Adequate	23	(45.1)	12	(41.4)	23	(48.9)	9	(50.0)	67	(46.2)
Poor	16	(31.4)	9	(31.0)	9	(19.1)	2	(11.1)	36	(24.8)
Totals	51	(35.2)	29	(20.0)	47	(32.4)	18	(12.4)	145	(100)

**Table 44 Teachers' ratings of facilities within their teaching areas**

Groups	Business & General Studies		Engineering		Science		Building		Totals	
	n	%	n	%	n	%	n	%	n	%
Excellent	-	-	2	(7.4)	1	(2.2)	-	-	3	(2.1)
Good	9	(18.0)	6	(22.2)	13	(28.3)	3	(17.6)	31	(22.1)
Adequate	16	(32.0)	8	(29.6)	14	(30.4)	9	(52.9)	47	(33.6)
Poor	25	(50)	11	(40.7)	18	(39.1)	5	(29.4)	59	(42.1)
Totals	50	(35.7)	27	(19.3)	46	32.9	17	(12.1)	140	100

**Table 45 Teachers' ratings of their staff refectory facilities**

Groups	Business & General Studies		Engineering		Science		Building		Totals	
	n	%	n	%	n	%	n	%	n	%
Excellent	1	(2.0)	-	-	2	(4.3)	3	(16.7)	6	(4.2)
Good	10	(19.6)	4	(13.8)	8	(17.0)	3	(16.7)	25	(17.2)
Adequate	27	(52.9)	21	(72.4)	21	(44.7)	9	(50.0)	78	(53.8)
Poor	13	25.5	4	(13.8)	16	(34.0)	3	16.7	36	24.8
Totals	51	35.2	29	(20)	47	(32.4)	18	(12.4)	145	100

**Table 46 Teachers' ratings of teaching resources available in their college**

Groups	Business & General Studies		Engineering		Science		Building		Totals	
	n	%	n	%	n	%	n	%	n	%
Excellent	-	-	-	-	2	(4.3)	-	-	2	(1.4)
Good	7	(13.7)	4	(13.8)	7	(14.9)	3	(17.6)	21	(14.6)
Adequate	14	(27.5)	9	(31.0)	7	(14.9)	5	(29.4)	35	(24.3)
Poor	30	(58.8)	16	(55.2)	31	(66.0)	9	(52.9)	86	(59.7)
Totals	51	(35.4)	29	(20.1)	47	(32.6)	17	11.8	144	(100)

**Table 47 Teachers' ratings of college facilities for the disabled**

Groups	Business & General Studies		Engineering		Science		Building		Totals	
	n	%	n	%	n	%	n	%	n	%
Excellent	-	-	-	-	-	-	1	(5.6)	1	(0.7)
Good	6	(11.8)	5	(17.2)	5	(10.6)	4	(22.2)	20	(13.8)
Adequate	12	(23.5)	8	(27.6)	18	(38.3)	4	(22.2)	42	(29.0)
Poor	33	(64.7)	16	(55.2)	24	(51.1)	9	(50.0)	82	(56.5)
Totals	51	(35.2)	29	(20.0)	47	(32.4)	18	12.4	145	(100)

**Table 48 Teachers' ratings of their workroom facilities**

The responses in Tables 43 - 48 were collapsed and are shown in Table 49 for ease of comparison of the ratings of facilities.

Facilities	n	Excellent	Good	Adequate	Poor
		%	%	%	%
Library	145	13.8	35.9	26.2	24.1
Teaching areas	145	2.8	26.2	46.2	28.8
Staff refectory	140	2.1	22.1	33.6	42.1
Teaching resources	145	4.2	17.2	53.8	24.8
For disabled	144	1.4	14.6	4.3	59.7
Work rooms	145	0.7	13.8	29.0	56.5

**Table 49 Teachers' ratings of college facilities**

The figures in Table 49 suggest that the majority of F.E. teachers do not rate their college facilities highly.

Less than 50% responses of "excellent/good" and over 25% responses of "poor" were recorded, with almost 60% indicating that facilities for the "disabled" and "staff work rooms" were considered to be "poor".

Facilities are among the factors Herzberg (1966) identifies as "maintenance" or "hygiene" factors. His studies suggest that such factors operate in a similar way to preventive medicine designed to reduce disease or illness. The provision of good working facilities, Herzberg argues, will have a similar effect in reducing dissatisfaction and de-motivation within the work force. Using the medical analogy, Herzberg points out that good preventive medicine is not a sufficient condition to produce fitness; in the same way, the provision of good facilities (maintenance factors) reduces negative motivation and is a necessary but not sufficient condition to produce high positive motivation.

It would seem, then, that perceptions of the quality of facilities within the work place is likely to be a source of reported stress and/or frustration in teachers' attempts to satisfy their desires in the role of teaching.

The facilities identified in Tables 40-46 were those extracted from interview transcripts and, necessarily, represent only a limited view of college facilities. In order to gauge more generally how F.E. teachers perceive their college facilities, an open question was included in the questionnaire which asked respondents "What do you think of your college facilities?" The responses to this open question are shown below:

Window dressing e.g. student advice centre cost thousands and yet we can't get bulbs for the OHPs; second rate students are expected to cope with very little limited resources and basic facilities; the facilities are reasonable, some of the teaching facilities are inadequate; teaching in a thirty year old hut is not the same as teaching in a new comfortable surrounding; student accommodation is non-existent; technical support is poor; image orientated; superficial; terrible; improving but decoration still poor; staff rooms and facilities are run down and dingy; not very extensive; poor no work room space, no canteen space etc; lack of resources in areas both from a teaching point of view and a "social" side both for the students and lecturers (lack of library facilities, common room, staff work rooms, refectory space); better than most but still poor; extremely poor for students and staff and definitely not appropriate to the needs of adult learners; anything not legally operationally essential is non-existent (e.g. gyms, recreation, student clubs); some good, some poor, the refectory facilities are very poor; student facilities could be improved; pathetic distinct lack of staff facilities ranging from development areas to resources; reasonable; adequate although improvements could be made; constraints are due to finance; good but in need of upgrading especially information technology; the fabric is poor, computer facilities good but seating, etc. appalling, pathetic in comparison with a university or central institution.

These comments appear to support the impression gained from analysis of interview transcripts that teachers interpret facilities in terms of the contribution which they can make to the quality of teaching and learning situations for both students and teachers.

The general tenor of the comments, in common with the data in Tables 41-47 appeared to be skewed towards negativity. Many teachers clearly consider their college facilities to be poorer than they would desire them to be.

A number of comments in response to the open question, however, suggested that, since incorporation of colleges, facilities in some colleges at least are perceived by teachers to have improved and to be improving.

Improved a great deal over the last year; pretty bad but improving; satisfactory and improvement are in progress; have improved since incorporation; better than most and getting better all the time; getting better, they are quite good.

Teachers' reports about the facilities within their colleges support the earlier contention that appreciations and resentments are related to the extent to which facilities are perceived to enhance, or hinder, the satisfaction of the teachers' desires in the role of teaching.

### **Interim Summary: of Teachers' Perceptions of College Facilities**

With regard to college facilities the analysis of interview transcripts and survey data may be summarised in the following propositions:

- (1) Facilities are construed on a continuum from excellent to poor.
- (2). Facilities are rated according to the extent to which they are perceived to enhance or hinder the teaching/learning process.
- (3) Facilities in some F.E. colleges are perceived to have improved and to be improving.

## **(ix) Open Questions and Responses**

### **1 Satisfaction and Resentment about the Job.**

Responses to two open questions in the questionnaire “What gives you the greatest satisfaction in your job?” and “What do you resent most about your job?” suggest that perception of the quality of the work environment is an important factor in how teachers construe educational processes. Responses to the first question suggest that teachers’ satisfactions stem primarily from the work directly related to the role of teaching, and included:

New developments; colleagues’ support and sharing of ideas; team work; developing and implementing courses; relationships with colleagues and students; comparing notes that motivate students to learn difficult work and seeing the confidence that this brings; learning new subjects and teaching them; being able to teach properly; being in front of a group of students; the learning environment; preparing for a class.

A somewhat more cynical view was expressed thus:

4.30 pm; pay cheque at the end of the month; going home.

The latter comments may suggest that this teacher was somewhat disillusioned or demoralised; possible reasons for disillusionment or demoralisation of teachers may be found amongst the responses to the question “What do you resent most about your job?” In answering this question teachers were more forthcoming, and analysis of their responses indicated that their resentments were related to their perceptions of effects upon their **personal identities**, the **quality of management** of their work place, and of **administrative/organisational** arrangements.



## **Personal Identity**

Responses to the question “What do you resent most about your job?” which were categorised under this heading included:

Being taken for granted - no acknowledgement of a job “well done”; the lack of support from college; being undervalued; not being stretched; no longer feeling like a human resource; my abilities are not being used to their full extent; I am not respected by people above me; lack of recognition for a job well done; the lack of promotion; the lack of consultation about my feelings of students, courses etc; lack of time and appreciation a task takes; having to do the senior lecturer, or head of department’s work for them without the slightest chance of promotion or even recognition; not being in complete control; no chance of promotion; having to teach a subject I do not know anything about.

## **Management Quality**

Responses related to management appeared to support the impression gained during the interviews that managers are categorised as good, or poor. It is not surprising that teachers’ resentments arose from perceptions of poor management quality. Such comments included:

Unfair decisions; ill-informed management; incompetent senior lecturers; not enough notice given for teaching new modules; petty-minded head of department; lack of support from senior lecturer; poor management; lack of communication from senior lecturers; the petty bureaucracy; superiors , my superiors - management ineffectiveness; lack of guidance and support from senior management; red tape; lousy management who don’t support, and spend money on themselves and not the students; lack of co-operation; lack of correct information from head of department; lack of decision making by superiors; incompetence of senior staff; management performance, ineffective and indecisive management; having to cover classes at short notice; too many rumours and

suspensions of what management may, or may not, be up to; harping on about minor details by senior staff; lack of resources and communication from senior management; lack of support from senior staff; having to deal with an incompetent senior lecturer; the internal politics and lack of job security; management of college; lack of integrity in educational philosophy; interference from management; bad management resulting in students already disadvantaged being more so; incompetent senior staff; interference and constant 'moving of goal posts'; one lazy senior lecturer; lack of managerial support; higher management; management attitude to staff, and their perceptions of which our main duties/responsibilities are.

### **Administration/Organisation**

The resentments recorded which related to administration and organisation tended to support earlier findings of the study which suggested that teachers see their role as "teaching" and are less inclined to be enthusiastic about spending time on organisational or administrative duties. The comments categorised under this heading included:

Paper work and unsettling effects of post incorporation; excessive admin. demands; wasting time of administrative tasks which could be more effectively done by computers; administration; having inadequate time to deliver to students the quality I believe they deserve; lack of development time, and administrative demands of the job; paper work; SCOTVEC power and SCOTVEC administration; nightmare emphasis on systems; unnecessary paper work; lack of time and flexibility in the timetable to allow for personal development; lack of preparation time; never having enough time; impossible demands on time; lack of development time; the time spent at home on college work especially at weekends; continued change and interference from outside; lack of preparation time; too much paper work: excessive paper work and lack of clerical support; being restricted to a modular system; administrative tasks (e.g records of assessments); administration of courses; lack of preparation time; pressure to develop materials without adequate time; administrative interference; the amount

of administrative overhead, and the fact that this appears to grow and grow; the politics; the changes taking place where nobody benefits; putting a financial cost on education; not being able to use preparation time for what it is meant; petty administration, e.g. having to ask a senior lecturer for a card to put in a machine to copy a photocopy; not being allowed to write simple letters on college papers.

The above comments suggest that the psychological environment is of far greater relevance and significance to teachers than the physical environment. It is noteworthy that none of the comments above made reference to physical facilities within the work place.

## **2 What aspects of your job would you like to change ?**

This question was included in the questionnaire in an attempt to test some aspects of the theoretical concept of “teachers’ desires”. The responses to this question suggest that teachers do have a desire to maintain or enhance their self-image by presenting a good service to their students. The responses are recorded below, under the same headings as before:

### **Personal Identity**

Comments categorised under this heading included:

Staff development; more influence in educational policy of the institution; more responsibility; more money; more preparation time; more recognition of work being done; to be consulted and my views acknowledged; more staff development and training; a time set aside for developing new material; reorganising course structure and networking with other institutions; more time for lesson preparation; need to split my job in half and employ a colleague; greater responsibility; the subjects I teach; the pay; more time to develop specific areas of teaching; amount of responsibility for work; increased authority level; less paperwork; more practical teaching; job sharing; I would like my job to consist of industrial input;

I would like to be able to repeat a course so that it could be improved instead of doing a new one; more time for research/development; I would like more autonomy for the courses I run and less interference from senior staff; I should be given more control in some areas; a more understanding approach by management to the professional teacher; only teaching my own subject specialism.

### **Management Quality**

Comments categorised under this heading included:

Restrictions from head of department; a more flexible approach to time-tabling; 13 week blocks are not always the most, or best, method to adopt, there perhaps could be a longer time between teaching issues of a subject; lack of communication between senior management and the chalk-face worker; more planning and communications in advance of courses; more/greater decision making abilities within departments; management attitude; I'd like better team work within the department leading to meaningful discussion and bringing improvements; more helpful senior staff; control over timetables; communications within the college; equal opportunities for all; silent management, more of a team approach than the dogmatic approach; I would like money to be less influential in decision making; senior management team and bums on seats approach; shoot senior management; a more understanding approach by management to the professional teacher; the emphasis placed by management is on finance.

### **Administration/Organisation**

Under this heading respondents suggested changes in administration and organisational procedures. Such comments included:

Fewer hours' teaching; more preparation time; more time to thoroughly plan for

learning; more time to develop quality products; less concentration on admin. and more on students, less administration, more teaching; organisational structure; our skill is in the area of educating, not administration; less paper chasing and admin. and more imparting of knowledge; less SCOTVEC, more opportunities for other routes; amount of marking to decrease; more time to devote to preparation for classes; reduction in paper work; more time spent on forward planning less on pushing paper; less admin.; time spent filling in registers and progress sheets for main computer; generally too much time on repetitious admin., not enough for staff development and preparation; lack of development time given for new courses, would like less administration; less paper work; time to prepare properly; would like to spend more time developing good teaching materials; reporting structure; to have less jargon to deal with; an atmosphere which puts students first.

### **3 Desires for change related to the modular curriculum**

An open question in the questionnaire invited respondents to record responses to the question "What aspects of the modular system would you like to see changed?".

The responses to this question tended to reflect teachers' resentments of the system reported earlier. General comments included:

Virtually all - replace; modules should be structured instead of fragmented; raise academic level; more co-operation with all colleges; teaching same modules regarding standards; the Scotvec administration; language of Scotvec; module/unit descriptors equals Scotvec jargon; more flexible time approach - link modules together rather than independent packages; encourage holistic approach; all of it; some means of being honest; that not all subjects can easily be expressed as competencies; most of it; go back to meaningful examinations.

These comments taken together with teachers' reported resentments about the modular system ( see Phase 1 of the study) suggest that teachers desire to integrate their teaching

in a holistic way and to provide meaningful learning of a high standard.

The greatest number of responses to the question “What aspects of the modular system would you like to see changed?” related to assessments, and included:

The amount of assessment paper work; assessment system; introduce final exams again coupled with continuous assessment; a final examination should be brought in to account for 50% of the final results.

Teachers were critical of a system in which assessment appeared to be “piecemeal”. They were also concerned that the system was not standardised in terms of quality assurance across the country.

Assessments set by Scotvec so we have a quality standard to strive for; assessments set by Scotvec to ensure standards are the same across Scotland; individual assessment standards abolished; national standards implemented; would like it (the modular system) retained with Scotvec taking responsibility for assessment problems; more internal and external moderation to allow modular system to develop; universally recognised standards; assessment procedures; some “independent” examination; more input from Scotvec, eg more external verifications; more effective verification of standards; more formalised exams as well as continuous assessment to give credibility; intra-modular assessment; tighter control on verification; more support from verifiers; standardisation of assessment; tightening of assessment procedures to ensure standards; reduction in number/volume of assessments; assessments being devised centrally and being treated more like exams; I don’t think internal assessment/marking is as valued as that where the external markers are involved, ie industry recognition; I would like to see a test at the end of 6 months and a final exam; get back to meaningful exams.

Teachers appeared to be concerned that the assessment scheme, as operated at present, lacks validity in measuring meaningful learning and lacks the reliability and validity of

nationally applied consistent standards. Many teachers seem to share the belief that some form of nationally set examinations would have greater credibility with everyone concerned; teachers, students, employers and society, although such a view may well have been disputed by Scotvec and others.

Teachers also appeared to be concerned with the fairness of assessments and shared the view that the introduction of a grading system would reward students' efforts more equitably:

The standard pass or fail system; introduce grading; allow for some grading to reward able students; grading should be introduced.

Teachers' expressed concern that the modular system allows too many attempts at re sit tests, and that some students take advantage of this by taking a shallow approach to learning ("sit the test, find out the answers to the questions you got wrong....re sit test ..... repeat until you pass the test"). A number of teachers reported during the interviews that they resented having to operate such a system, which they felt was unfair, disruptive, and undermined the credibility of the assessment procedures. This view was supported in responses which included:

Assessment requirements; too many chances are given to achieve; restrictions on remediation opportunities; amount of resits allowed; the system makes it too easy for students to pass; quality has to be watered down; introduce grading and only one re sit of assessment; fewer attempts at assessments should be allowed.

#### **4 Questions about Relationships**

A continuing theme throughout the interviews was the degree of importance which teachers placed upon the quality of the relationships they experienced. The quantifiable data derived from the questionnaire showed that relationships were perceived by teachers as best with students, less so with colleagues and less still with managers. These data related to a limited list of adjectives provided by interviewees. Partly for this reason,

three further open questions were included in the questionnaire which asked respectively “How would you describe your relationships with your students ..... your colleagues..... your senior staff ( SL, Section Head, HOD). Responses to the three questions are summarised under the appropriate headings.

### **Relationships with students**

Good; friendly and fun; great; I work hard at making it a good one; cordial; excellent; friendly and supportive; professional; good with high achievers - bad with low achievers; relaxed and co-operative.

### **Relationships with colleagues**

Very mediocre; good; highly satisfactory; good; supportive; average; good with some but poor with older hands; reasonable but at least two of my colleagues seem to feel threatened and their behaviour is often nasty; generally good, some resent all promoted staff as a matter of course; distant, I experience little support and find I am working in isolation at most times; I have a more positive relationship with support staff; good mutual respect, shared interests; co-operative, friendly, professional; indifferent with some, exciting with others; very good with my own team (been together a long time - all females like me) more problematic with males (new staff - gender issues); reasonable working relationships; cautious; incredibly political group - always happy to stab you in the back - lukewarm; respectful; not going for a common goal; I get on with most of them.

### **Relationships with senior staff**

They pay lip service to most of my needs; remote; fair - good; OK but too many chiefs doing too little; nil communicado; highly satisfactory; poor not interested in my problems; they are too interested in achieving their goals at the expense of others; very poor; very good; HOD - never see him - I have been singled out and



ridiculed for years by senior staff and HOD; I have a friendly relationship with SLs; good mutual respect, shared interests; not bad - some I respect some are useless; need more support from SL, HOD - very good relationship; good although there is not contact every day we have to suffer their incompetence; we work very much as a team, each aware of the responsibilities of the others; friendly but distant, arms' length; reasonable but lots of "lack of communications"; more long-term planning needed to achieve objectives; detached not in contact unless something goes wrong; terrible; frustrating.

In describing their relationships, teachers' comments appeared to reflect feelings about relationships rather than descriptions of their characteristics. The comments were more in the nature of judgments or evaluations than descriptions or explanations.

Although not elaborated, the reports suggested that what teachers desire from relationships is a combination of mutual respect, personal recognition and acceptance. Their reports reflect the extent to which they appreciate the presence, or resent the absence of these in their interactions with students, colleagues and senior staff. The quality of the relationships that teachers experience appears to be a crucial factor in their psychological framework, and to influence how they construe other aspects of the educational process.

Teaching and learning, by definition, is a psycho-sociological process, the heart of which is inter-personal relationships. The extended role of the teacher (outwith the classroom) also involves a range of psycho-sociological processes.

### **(x) General summary**

After reviewing the data of the study to date, it may be argued that how some teachers construe their roles, the design and implementation arrangements of the curriculum, their college facilities, administrative arrangements, the attributes of self, students and others etc. is likely to reflect how each of these inter-related elements of educational provision affect, and are affected by, the types of relationships teachers experience.

Although all of the subjects of the study are teachers working largely within a national curriculum system, their reports suggested that their perceptions and interpretations of their experiences are quite different one from another.

It has been shown that teachers find less difficulty in coping with the problems of teaching knowledge and skills than with managing situations in which people's attitudes appear to be inconsistent with the teacher's desires.

In teacher training the emphasis tends to be placed upon the acquisition of competencies. Teachers are encouraged to develop competencies, given a range of tasks, in identifying "what to do" and "how to do it". In essence, they are encouraged to develop a repertoire of teaching skills. The assumption underlying this approach to training is that effective teaching consists of a display of these competencies or skills. The question as to whether the teacher may have a desire, or not, to deploy these skills seems largely to be taken for granted, yet the evidence presented in the study thus far would suggest that teachers' desires are a crucial element in how they construe educational processes, particularly in circumstances which may be perceived by teachers to be not ideally suited to the achievement of their intentions. When talking about their desires for more training, interviewees displayed signs of emotional discomfort. In pursuit of an understanding of the teacher's' decision making, it may be that due attention should be paid to their preoccupations in the affective domain, as well as in the cognitive and psychomotor domains.

The lack of training related to the National Curriculum was reported as a major concern by interviewees in Phase I of the study. Their concerns were related to their feelings of vulnerability to criticism by both students and senior college staff. Such vulnerability appeared to be a factor in teachers' expressed levels of stress and frustration, which in turn is likely to reduce their levels of confidence and self esteem. The response rates to related questionnaire items are shown in Table 50 below.

	Business & General Studies		Engineering		Science		Building		Totals	
	n	%	n	%	n	%	n	%	n	%
Lecturers should have:										
More training in the system	39	(76.5)	17	(58.6)	26	(55.3)	9	(50.0)	91	(62.8)
More time for preparation-	22	(43.1)	11	(37.9)	26	(55.3)	9	(50.0)	68	(46.8)
More guidance in assessment	25	(49.0)	6	(20.7)	16	(34.0)	6	(33.3)	53	(36.6)
Totals	51	(35.2)	29	(20.0)	48	(32.4)	18	(12.4)	145	(100)

**Table 50 Teachers' Desires for more Training and Preparation Time**

**(xi) Gender Differences and Teachers' Decision Making**

Tables 1-50 above show the collated and prescribed quantitative data which emerged from the administration of questionnaire to the total population of subjects of the study. These subjects, all practitioners drawn from the system of Scottish F.E. colleges, represent the particular substantive context of the research, which aimed to elicit, firstly by qualitative means and latterly by functionally-related quantitative means, data related to the teachers' perspectives and interpretations of their professional lives. As is shown in these tables, the impression that teacher attitudes and views may differ in accordance with academic background and subject- specialisms in terms of teaching, was confirmed by quantitative analysis as statistically significant over a wide range of topics addressed by questionnaire items.

However when identical data were analysed to test the second of two null hypotheses proposed in Section 8, that related to gender differences, by exploring possible significant correlations using the same items and range of topics, few statistically significant differences were detected. The results of the statistical tests at the 95 % level of confidence are shown in Table 51 and 52 below.

Within the parameters of the present study, these findings which may seem to contradict generally received wisdom that in such a context, significant differences will normally be in evidence, is clear and conclusive. The conclusion, that in this set of circumstances and with this population, teachers' perceptions and interpretations seem to be shaped more by their professional backgrounds and experience than by their gender, may be of interest to readers and researchers in this or allied fields who adopt a range of feminist/post-modern perspectives.

<b>Number of respondents who recorded gender:</b>	<b>Total</b>	<b>Male</b>	<b>Female</b>
	124	69	55
<b>Percentage of respondents who recorded gender:</b>	100	55.6	44.4
<b>Age ranges</b>			
Under 30 years		28.9	27.3
31-40 years		50.7	47.3
41 and over		20.3	25.5
<b>Qualifications held (Percentages)</b>			
HNC		15.9	9.1
HND		20.3	14.5
<b>Degree 1</b>		<b>39.1</b>	<b>58.2</b>
Post grad' degree		26.1	34.5
Professional qualifications		34.8	34.5
Other qualifications		2.9	1.8
<b>Working toward qualifications</b>			
TQFE		94.2	92.7
Diploma		1.4	1.8
Degree 1		5.8	7.3
Post grad' degree		14.5	5.5
Other qualifications		1.4	0.0
<b>Subject specialisms</b>			
Accounting/Banking		2.9	25.5
Art and Design/Architecture		0.0	7.3
Business Studies		0.0	16.6
Built Environment and Trowel Trades		24.6	0.0
Community and General Studies		7.2	16.4
Engineering		30.4	0.0
Management		13.0	14.5
Science (Pure)		15.9	3.6
Science (applied)		14.5	29.1

**Table 51 Demographic Comparisons of Respondents' in Terms of Gender**

Table 51 above shows statistically significant differences between the percentage of women teachers holding first and higher degrees compared with their male counterparts, and also differences between subject specialisms.

**Percentage of respondents who agree with the statements :-**

In talking about my job I refer to myself as:-

	Total	Male	Female
Teacher	19.3	21.7	12.7
Lecturer	86.9	85.5	90.9
Instructor	2.8	1.4	5.5
<b>My job is to :</b>			
Pass on my knowledge to my students	74.5	76.8	67.3
Pass on information to my students	61.4	62.3	67.3
Prepare my students for a job	64.8	58.0	70.9
Give students skills	77.2	70.7	76.4
Build students' confidence	86.9	85.5	87.3
Encourage students to be responsible	72.4	63.8	78.2

**Aspects of my job:**

I teach a wide variety of subjects	62.8	56.5	65.5
I teach a wide variety of students	86.9	71.0	81.8
My job is subject to a lot of variation	54.5	47.8	61.8

I would describe my job as being :

Tremendous	4.8	4.3	5.5
Likeable	25.5	18.8	32.7
<b>Interesting</b>	75.7	68.1	83.6
Enjoyable	53.1	44.9	60.0
Nice	3.4	2.9	7.3
Comfortable	4.1	2.9	3.6
Satisfying	55.9	59.4	49.1
Challenging	79.3	76.8	78.2
<b>Stressful</b>	73.8	63.8	83.6
Frustrating	60.7	63.8	60.0
Like a hobby	4.8	7.2	3.6
The best job there is	10.3	11.6	9.1

In my opinion the National modular curriculum is :

Flexible	39.3	31.9	43.6
Good for developing new topics	16.6	11.6	18.2
Suited to individuals' pace of learning	25.5	17.4	29.1
<b>Open to everybody</b>	33.8	24.6	45.6
<b>Better than the previous system</b>	4.1	1.4	9.1
Beneficial for lots of people	27.6	23.2	34.5
Too fragmented	43.3	46.4	40.0

In my opinion the National modular curriculum :-

Encourages students to learn and forget	72.4	71.0	74.5
Discourages students from working hard	54.5	50.7	52.7
Allows too many re-sits of assessments	58.6	59.4	54.5
Involves too much paperwork	53.8	58.0	54.5

In my opinion:

	Total	Male	Female
Some modules have too little content	55.2	50.7	49.1
Some modules have too much content	58.6	59.4	58.2
Lecturers should get more guidance in assessing			
Many assessment instruments are poor	49.7	49.3	40.0
There should be a grading system	56.6	50.7	56.4
A grading system would motivate students	58.6	49.3	61.8

Factors related to teachers' job rated by respondents' as **extremely/very important**:

Ensuring students pass their assessments	62.5	58.9	68.8
Helping students in their personal development	77.7	72.1	89.1
Having good relationships with students	72.8	67.1	83.7
Having good relationships with colleagues	63.6	59.1	70.3
Having good relationships with senior staff	42.2	32.3	52.8

Factors related to college facilities rated by respondents' as **excellent/good**:

Library	49.7	53.6	41.6
Staff refectory	24.2	23.9	22.7
Staff workrooms	14.5	13.0	16.4
Teaching areas	29.0	30.4	25.4
Facilities for the disabled	16.0	13.2	20.0
Teaching resources	21.4	23.1	18.1

Teachers describe **all/most** of their students as being:

Well behaved	82.4	82.3	85.0
Interested in learning	58.0	51.5	68.6
Capable	53.7	57.4	53.7
Mature( in age )	24.3	22.1	31.0
Mature ( in attitude )	27.4	25.0	33.4
Skilled	15.9	9.1	16.9
<b>Highly motivated</b>	20.3	11.8	33.3
Responsible	35.4	35.3	42.6
Confident	20.4	20.6	20.4
Able	40.6	39.7	46.7
Sultry	4.7	8.9	2.9

Teachers' **strongly agree/agree** that the **relationships** they have with their **students** are :

Co- operative	97.9	97.1	98.1
Enjoyable	97.8	96.9	98.2
Close	59.0	58.2	68.8
Supportive	97.1	97.0	98.2
Sharing	75.0	69.7	78.4
Friendly	95.0	94.1	94.2
Vibrant	51.1	42.2	66.7
Interesting	90.3	89.2	89.8
<b>Good</b>	97.0	95.5	97.9
Pleasant	95.7	92.1	98.0
Motivating	90.3	85.9	94.2

**Teachers' strongly agree/agree that the relationships they have with their colleagues are :**

	Total	Male	Female
Co- operative	91.6	89.7	94.5
Enjoyable	82.6	79.7	85.7
Close	52.6	51.6	63.3
<b>Supportive</b>	<b>82.0</b>	<b>74.3</b>	<b>88.7</b>
Sharing	78.2	75.0	84.0
Friendly	86.9	81.9	94.2
Vibrant	43.3	44.2	42.6
Interesting	83.0	82.5	90.4
Good	84.8	83.9	90.0
Pleasant	86.0	87.5	88.0
Motivating	61.2	59.7	63.5

**Teachers' strongly agree/agree that the relationships they have with their SL; Section leader; HOD. are :**

Co- operative	77.3	74.6	83.0
Enjoyable	49.2	48.5	52.1
Close	30.3	32.3	36.7
Supportive	63.2	63.1	65.6
Sharing	36.2	33.4	41.3
Friendly	71.2	67.7	77.1
Vibrant	28.4	26.6	31.1
Interesting	51.9	53.9	47.9
Good	66.4	64.1	68.8
Pleasant	65.3	66.2	63.1
Motivating	40.6	36.9	46.0

**Teachers' strongly agree/agree that their SL; Section leader; HOD.is:**

Approachable	82.3	85.1	75.5
Efficient	42.3	46.3	42.0
Receptive to ideas	52.9	52.3	56.6
Communicative	52.2	55.4	48.1
Helpful	63.7	60.9	67.4
Fair	67.2	71.8	62.0
Informed	56.9	54.7	57.2
Democratic	45.8	42.3	48.0
Confused	39.3	29.7	51.1
Good listeners	50.8	47.6	60.0
Interested in their staff	52.6	55.3	54.0
Critical of staff	37.4	35.9	34.0
Informed about their staff	42.1	42.2	47.1
Good at giving guidance	35.9	29.7	43.8

Teachers' strongly agree/agree that their Senior managers are:

	Total	Male	Female
Approachable	57.1	59.1	61.1
Efficient	29.3	28.2	28.0
<b>Receptive to ideas</b>	29.0	<b>17.7</b>	<b>48.9</b>
<b>Communicative</b>	31.1	<b>21.2</b>	<b>46.0</b>
<b>Helpful</b>	35.9	<b>29.0</b>	<b>51.0</b>
Fair	48.4	50.8	48.9
Informed	52.8	50.8	55.1
Democratic	20.2	16.1	26.5
Confused	40.0	39.7	37.8
Good listeners	30.2	22.0	41.7
Interested in their staff	33.0	36.0	35.5
Critical of staff	56.6	54.3	54.4
Informed about their staff	24.4	26.3	23.4
Good at giving guidance	13.5	12.9	15.2

Degree of teachers' satisfaction derive from :-

( Total of the three highest rating, on a scale of 1-6 expressed as a percentage)

Passing knowledge and skills on to students	93.0	95.6	92.4
Developing relationships with students	83.9	79.7	94.3
Building self-esteem and confidence of students	95.7	94.1	98.1
Seeing students pass their assessments	86.4	82.3	88.6

**Table 52 Comparison of response rates by Total and Gender**

The few significant differences shown in Table 52 above (figures in bold type) are worthy of further psychological and sociological investigation. Such investigations would entail considerable time and resources and for these reasons were considered to be beyond the scope of the present study.

## (xii) Findings and Linkages to Later Sections

The interim findings which can be stated at the end of this Section of the study are, in an important sense, based upon the interconnected work carried out up to this point. The latter includes, in outline, the presentation and testing of an operational definition of decision; the identification and testing of organising categories and sub categories of decision statements; the development of the typology of decisions. Under pinning and informing these developments were data derived from a range of sources: several areas of literature search; qualitative survey data via interview protocols; quantitative data via



survey questionnaire. Though comprehensive and summary in the above sense, the statement of findings can conveniently be organised in relation to the stated aims of this Section.

**Aim I** To provide the stated interest groups with a more reliable tool for the purposes of comparison in the form of a normative profile of teachers surveyed in the study.

By means of the assembly and analysis of quantitative data (see Tables 1-52) the reader has been provided with a normative, summary picture of the decisions made by teachers in the F.E. sector, across a wide range of aspects of their professional lives, presented in terms of totals i.e. data in the form of totals and percentages relating to the population of respondents as a whole, and in terms of sub-groups of that population. The sub-groups in question were: the total population split in terms of broad subject-specialism; and the population split for gender. Clearly the data expressed in totals would permit teachers themselves and other interested parties to take an overall conspectus of what might be termed “the teacher’s view of the whole gamut of their work-related experience” and so provide them with a tool adaptable for the comparison and contrast of teachers’ decision-characteristics in this sector of education with for example, those of practitioners in other sectors, whether primary, secondary or tertiary; and with those of other groups perceived as relevant comparators.

The data split down by subject specialist groups are presented in the Tables (1-52) in order of the main organising categories established earlier in the study. These findings are likely to prove of particular interest and utility to teachers, their line-managers and administrators in the F.E. sector of education.

The data analysed by gender are presented in the extended Tables 53 and 54 above, in the order of the groups of items in the Survey questionnaire. The conclusions are supported by the data and by the ways in which the data were elicited and processed.

Phase I of the study consisted of semi-structured interviews. Semi-structuring consisted

of major topics which emerged from the pilot exercise, which respondents in Phase I were encouraged to comment upon. Gender differences e.g. did not appear as a major issue in the pilot exercise. The degree of structuring did **not** preclude the free expression of respondents' views, interpretations etc. of their professional lives, i.e. questions were designed to be open-ended in nature, and the series of prompts ended with a completely open encouragement to suggest any topic area not already addressed and to comment as freely upon that as upon earlier topics. In the pilot study exercise and in the main body of the study, a mix of genders made up the population of respondents (see Table 51); no specific areas of discussion, nor issues nor views were introduced by the interviewer/researcher. In the outcome, gender as an issue in professional life was not volunteered by participants in the pilot exercise nor did gender arise as a professional issue in the discourse of Phase I interviews, even in response the final open-ended prompt.

Phase II of the study consisted of questionnaire items made up of two types; closed items grouped in categories derived from Phase I interview transcript data; and open questions attached to each of the category groups. It is due to the nature of this route of derivation that no specific, dedicated items were able to be included in the questionnaire directed to gender issues as such. Finally, as in the interview situation, a completely open-ended item (Any further comments upon any topic not cover by the questionnaire items) was included, which elicited no responses which raised the issue of gender.

Clearly, gender issues feature predominantly over a wide range of aspects of education: Philosophical, political, sociological and institutional. It is an interesting outcome of this study that gender is not a differentiating factor in how F.E. teachers perceive and interpret their professional environments. This broad conclusion is congruent with the findings of an earlier study, based upon a population of F.E. teachers, nurses and midwife tutors in Scotland, whose intentions was to test the hypothesis that the perceptions of such practitioners of their professional lives are differentiated in terms of their gender (see Mc Farlan and Nicholson 1994).

The conclusions of these studies, though limited to throwing light upon one particular

contextual area of education, may be of particular interest to academics and practitioners involved in grappling with issues of gender differences in wider aspects of education, whether theoretically or institutionally.

The reporting of the statistical analysis of the data in terms of the four specialist groups and the two gender groups fall naturally under the heading of AIM II.

**Aim II** To test , using quantitative data generated by questionnaire items, two null hypotheses

Both sets of data (from the subject specialist groups and the gender groups) were subjected to testing in terms of statistically significant correlations by Chi squared analysis.

The testing of the data derived from the four subject-specialist groups resulted in the rejection of the associated null hypothesis at the 95% level of confidence. The testing of data on the bases of gender groups resulted in the associated null hypothesis being confirmed at the 95% level of confidence, in the cases of the vast majority of questionnaire items; significant differences were confined to a small number of items. These latter items are highlighted in bold type which summarises total responses by gender split, see Tables 51 and 52.

**Note:** The methods of presentation in the two cases vary, as stated above. In the case of the subject -specialist groups, significant differences were noted in the responses to all the items; the differences, however resided in the magnitude or degree of response, rather than in the direction of responses. For example in response to given items, all groups might agree or strongly agree, but differ in their strength of their agreement group by group. For this reason presentations in the form of extended tables (Tables 1-51) allowing interesting comparative results to be displayed. In the case of gender split, significant differences were extremely rare. For this reason, the data concerned can most adequately and effectively be presented in summary or total form as shown in Tables 51 and 52.

**Aim III** To quantify as far as possible, the impressions formed by the researcher in terms of degrees of importance and satisfaction (as described above).

The instrumentation to facilitate the addressing of this aim was two supplementary questionnaire items, each constructed to cover a restricted range of cognate areas, and designed to test responses in terms of importance and satisfaction. The areas addressed were derived mainly from the decision statements and categories arising in Section 7 above, and relate to the responders' perceptions of their roles as teachers interacting with their students in tutorial situations, but also to their interactions with other significant persons in the workplace.

Of the five areas concerned with the allocation of degrees of importance, all were given > 50% of "extremely/very important" ratings in total, with the sole exception of "Senior Staff relationships". The orders of agreement by women, by men and in total were identical. When subjected to Chi squared analysis, the gender split resulted in no significant differences at the 95% level of confidence.

For the four areas concerned with the degree of satisfaction derived by respondents in their roles as teachers interacting with their students, the first striking feature is the extremely high rates of satisfaction recorded in all areas, and by both genders. This tended, if anything, to confirm the impression formed during the interview phase that teachers seemed to gain higher degrees of satisfaction, in general, from classroom-and-student-related activities than from other aspects of their working lives. Of these four areas, two are concerned with teachers' "person related" perspectives, and two with "subject-related" perspectives of the teaching role. Here, the results tended to contradict the subjective impressions derived from analysis of interview transcripts, that teachers regarded the person - oriented substantially more highly than the subjective -oriented aspects of their role. In total terms, they were much closer statistically than expected; the orders of degrees of satisfaction differed by gender, with females reporting marginally more highly in terms of the person - related areas. However, subjected to Chi squared analysis, the gender split resulted, once again, in few significant differences at the 95% level of confidence.

**Aim IV** To test the organising categories identified in Section 7 to the level of saturation, via a series of open, non-directive questions

**Aim V** To test the tentative typology of decisions proposed in Section 7 to the level of saturation via a series of open, non-directive questions.

The instrumentation used to address these two aims is a series of open-ended, non-directive items appended to, and derivative from, each section of the survey questionnaire. Analysis of the responses to these items, designed to test to the level of saturation both the set of organising categories and the set of decision types making up the tentative typology as established in Section 7, resulted in demonstrating the degree of saturation of both.

No new, major categories were discovered to be added to the existing structure of organising categories, nor any new, different types of decisions to be added to the typology at this stage.

The present Section has successfully quantified, by the use of appropriate methodology, the responses of the total subject population in those areas of enquiry corresponding to main organising categories of their decisions derived in Section 7. This is likely to provide a useful source of information, over the range of survey topics, for interested parties. Through its focus upon the substance of decision making, and upon answering the question “What do teachers in the Scottish F.E. sector take decisions about ?” it makes a contribution to filling the gap in the research literature referring to that text. In addition, teachers’ degrees of satisfaction derived, and importance allocated in certain areas are quantified ordinally.

A major outcome is the reinforcement and confirmation of the key categories, derived in Section 7, which organise the substance of teachers’ decisions, and also the types, from the same Section, which describe the process by which these decisions are treated. In neither case was it found necessary or appropriate to extend or modify these lists of concepts; hence, the Section does not provide any additional structure to the descriptive model, based on the concepts derived in Section 7, which is presented in Section 12.

What it does provide is a refinement of the contextual background in which the model is embedded, and from which it is ultimately derived.

The data flowing from the survey questionnaire allowed the two hypotheses making up Aim II of the Section to be tested, with results which define the potentiality and limitation of the model: the variation of responses by group was significant; the variation by gender was not, in terms of the areas of enquiry covered by the survey. Neither Subject-specialist group nor gender is incorporated into the model in a functional sense, but the data referring to them provide a quantified version of the background “text” to activate the model for the reader in terms of the educational context of the study.

In the Section 9 which follows immediately, the method of semi-structured interviewing is once again employed to elicit data in the form of teachers’ statements about their planning and evaluation of teaching and learning situations. The organising categories, typology and concept of the Internal Context developed up to this point are further tested, developed and elaborated.

## **SECTION 9 ANALYSIS OF INTERVIEW TRANSCRIPTS**

### **( Phase III of the Study)**

#### **(i) Brief Introduction and Rationale**

The main focus of this section is to build upon the progress made in the study so far in the development, refinement and confirmation of constructs concerned with teachers' decisions and decision making. In the introduction to the study and in Section 5, it became clear that researchers concerned with decision making by teachers have tended to employ as contexts, principally, the primary and secondary sectors of education. Also, in terms of Jackson's (1968) analysis by sequential phases of the teaching process, (precatave, inter-active and post-active roughly corresponding to planning, implementation and evaluation/reflection respectively), the literature concentrated on one or other of the first two of these three phases.

As a consequence, definitions of decision have tended to be made relevant to the particular sector and phase concerned. For example, teachers' decisions in the interactive phase are often regarded as conscious, rational, explicit reactions to identifiable student behaviours, decisions are precursors to their own actions in direct response to the stimuli represented by such behaviour. Sources surveyed in the search of relevant literature, therefore, were limited in the sense of not presenting consistent definitions of decision nor descriptions of the decision making process.

Within the present study, up to this point, attempts have been made to assemble constructs by way of an operational definition of decision, tentative and continually tested and modified organising categories of decisions and a typology of decisions. This groundwork has been carried out in the general context (largely ignored in those studies surveyed) in which teachers operate, including their roles and lives as teachers, interacting with a broadly-defined environment not confined specifically to teaching and learning situations. The protocols employed; interviewing in Phase 1, survey questionnaire items in Phase II, served to help identify, then to test and refine the concepts by constant comparative analysis. The outcomes of the work done in previous

sections, in the forms of data, constructs and findings are, in this Section applied to Jackson's precative (planning) phase and also to the post-active (evaluative) phase, which has received comparatively little attention in the literature. The method employed is that of the unstructured interview, using as case studies, nine respondents selected from the total population of teachers in the study.

By these means, it is intended to address the main aims of Section 9.

**Aim I:** To continue to test the tentative typology of decisions by application in the precative and post-active contexts, and to develop it where appropriate.

**Aim II:** To continue to test the established organising categories of decisions in these contexts, and to develop the categories where appropriate.

**Aim III:** To continue to investigate the relationships of decisions and the concept of the teacher's internal contexts and to develop them where appropriate.

Decision statements identified from the nine interview transcripts constitute the data to be analysed in the present Section, in order to address its main aims.

## **(ii) Protocol of Analysis**

The following protocol, described in the form of 8 stages of analysis, is clearly derivative from, and a development of, the protocols adopted in earlier phases. Operating upon the interview transcript data, the sequence of procedures to be carried out are as follows:

**Stage 1:** Compare and contrast the decision statement data with already established decision types; extend the typology where there is evidence of non-saturation.



- Stage 2:** Tabulate key decision statements: sequence and number-off in the order of occurrence in the selected interview transcript (Case Study 1).
- Stage 3:** Match decision statements to the newly-revised list of types in the extended typology.
- Stage 4:** Review the list of decision statements to check the existing structure of organising categories for saturation; extend the structure as appropriate.
- Stage 5:** Analyse decision statements to establish their decision types, and also their linkages with each other (interconnections). Use the numbering system to facilitate this process.
- Stage 6:** Codify organising categories alphabetically using a **Chicago** font to differentiate these categories from the coding of the typology of decisions.
- Stage 7:** Summarise the data derived through the application of protocols 1 to 6 above. by presentation in tabular, matrix and diagrammatic formats.
- Stage 8:** Combine data from all case studies (as summarised in diagrammatic format) to develop the model of the teacher's internal contexts.

### **(iii) Analysis of Interview Transcript (Case Study 1)**

This transcript is taken as a representative sample of those derived from the 9 interviews carried out in this phase of the study; the remaining 8 are presented as Appendix B. The analysis which follows demonstrates the application of successive stages of the protocol summarised in (ii) above.

#### **Ray (Phase 1 Interviewee No 11) Geometric drawing**

In talking about himself, Ray said that he felt comfortable and confident in the

workshop. He considered himself to be a good tradesman, capable of answering any student's questions or demonstrating his skills in carpentry, but that he did not feel as confident or capable when teaching within a classroom situation. Ray explained that he was strongly affected by the primary concern that students should be capable of passing the assessments as prescribed in the modular descriptors. His approach to classroom teaching was to structure the material and deliver it in ways which would enable him to predict and control his students' behaviour. Unlike his planning of workshop lessons, in which he felt confident to deal with any situation or questions which may arise, his strategy in classroom lesson-planning was to attempt to reduce the unpredictability of students' responses, to minimise the risk of finding himself in situations with which he could not cope. Ray's level of confidence in teaching classroom lessons may be appreciated from his comment: "Doing something I don't normally do, I mean I feel a little bit out of place, I have in fact taught this subject only once before".

In describing his approach to lesson planning, Ray explained:

"First of all I took the modular descriptor and I read that over to see what the students actually had to do. The module I was going to teach was 602. Having a look at 602, learning outcome one ( LO 1) was basically drawing symbols of building materials, which I think I could have done no problem, but I didn't want to do that, I wanted to tackle something that I had never done before".

Ray's comments suggest that, in deciding the content to be taught in the lesson, he had interpreted (Type B decisions) the requirements of the modular descriptor and related this to his knowledge of and ability to teach the subject matter. Though he appeared to be confident of teaching this subject matter, this was not the basis upon which he decided to teach. His decision not to teach LO 1 was influenced by his personal "desire", reflected in the comment "but I didn't want to do that, I wanted to tackle something that I had never done before".

Given that the main purpose of teachers' lesson planning decision makings is to make explicit their intentions about what to teach (and how to teach it) it is interesting to note

that, at this stage of Ray's description of his lesson planning, his decision was not related to "what to teach" but rather to "what not to teach".

This observation gave rise to the further development of the typology of decisions. The typology as developed up to this stage of the study consisted of identifying with the "classification or categorisation", "interpretation of meaning" and "evaluation" of phenomena. (Type A, B, and C, decisions respectively). Ray's statement however was interpreted as a decision about what kind of action he intended to take. To account for this kind of decision the typology was extended to include "**Type D**" decisions, defined as "the resolution of information to establish intention, to take action with regard to future events." Ray's statement "I wanted to tackle something new" serves as an example of a Type D decision. This statement identifies Ray's intention as positively orientated towards "doing something new". His earlier statement however, "I didn't want to do that", is negative: it is not a decision to "take" a particular kind of action but rather to "avoid" it. To account for both of these different kinds of intentions, Type D decisions were re-classified as "positive" or "negative." A positive Type D decision (+D) was considered to be one in which a decision was made with the intention of "bringing about" some particular outcome, while a negative Type D decision (-D) was considered to be one in which the intention was to "avoid" a particular outcome.

Ray's explanation as to why he took this (-D) decision was:

"I thought the students would have found it boring, (L O 1) I wanted something that would capture their attention - like I say - they are a wee bit - well, I'm not saying very prone to misbehaving, but I've found that if you give them something to do, something that's taxing, this would be a better learning outcome for them".

Analysis of this comment suggests that Ray's Type -D decision not to teach learning L O 1, was influenced by his evaluation (Type C decision) of his students' level of interest and this was, in turn, influenced by his interpretation (Type B decision) of the attributes of his students.

The analysis of Ray's decision making suggests that he had a desire to teach something new and a desire not to teach L O 1. That is that his decisions about what to teach was influenced by his decision about what not to teach. His decision making related to what subject content to teach (or not to teach) was inter-related to his interpretation of both the modular descriptor and his students' attributes and also to what he himself desired. This analysis suggests that in planning a lesson, the decision making process with regard even to the content of the lesson is much more complex than a simple selection of material from a syllabus or modular descriptor.

Having made a (Type -D) decision not to teach L O 1, Ray explained "I looked at L O 2 and I said 'what do they need to know ?'" Ray explained that this question related to what the students needed to know to pass the assessment tests prescribed in the module descriptor.

Having decided what the content of the lesson should be, and how the students should be assessed according to the descriptor, Ray then considered the resources he would need to teach the lesson: "I found out that there was not much in the college in the way of worksheets, so I actually made up my own worksheets, my own visual aids, and that took me time".

Ray's decisions with regard to resources were influenced both by his interpretation of the requirements of the modular descriptor and his evaluative decisions with regard to how he anticipated his students would cope with the lesson. He explained this by saying:

"I have taken this group in the workshop and I know their abilities to a certain extent in theory lessons in the classroom. I know for instance that certain individuals are going to have problems with construction drawing; they might be good on the bench but it's probably different when you come to draw it, so I set about making up some worksheets to guide them towards the assessment. I'm really intending aiming at the assessment, what do they have to know, to do that drawing in the assessment ? So having found out what drawing they were going to be assessed on, I then got a copy of that and I was not happy with the quality

of that drawing because somebody had photocopied it wrongly, so I was misled with this material at the start”.

Ray's decisions about resources were influenced not only by his interpretation of the descriptor and his evaluation of his students' attributes based on experience, but also by his “anticipation” or “prediction” of how students would react to the material. In planning his use of resources it appeared that Ray was “imagining” or “imaging” how the lesson was likely to progress. He explained:

“I decided to show the students a worksheet showing them prisms and pyramids, and tell them the assessment was going to be on pyramids. I don't think that is taking a big leap. I'm planning basically to go towards the assessment material and teach towards that. What they have to know to perform this assessment. They have to draw a square truncated pyramid, so first of all I thought they will have to have a trial run at that, and if they are going to do that, it would be easier for me to explain a square prism. To give them three practice drawings of the prism, I think, is a waste of time, so one will be enough. As I say, I have never taken them for technical drawing before, but I feel that perhaps I won't be giving them enough practice drawing but I'll have to wait and see. However, I think if I give them a practice drawing of a prism and a practice drawing of a truncated cone, that should be enough. I think if I had more time I would go for the truncated pyramid. It was quite difficult to decide how to break the lesson up into bits because it's very difficult to allocate a time to something. I knew I wanted to give them two worksheets and an assessment. I am not concerned too much if they don't get the assessment done, but I definitely want to give them these two worksheets, or show them a bit of the drawing and get them to do a bit, and in that way I'll keep the class together, because I don't want some of the students to be too fast and be finished and then be sitting about doing nothing, but the allocation of time is simply a gut reaction. I'm basing that just on my experience of knowing the students in the workshops and in theory lessons. I gave them one worksheet this morning before the break and they seemed to cope with that OK, so I think another worksheet this afternoon plus the assessment

will be alright as well. This morning some of the students said ‘could we not get some harder work to do?’ so that is why I want to keep them together, otherwise these students will finish too early and will be sitting around bored”.

The above extract may serve to demonstrate that “time” also is an aspect of lesson planning about which Ray made decisions, and that the decisions made with reference to the allocation of time both influenced and were influenced by his decisions about other aspects of his lesson planning. In particular, Ray was concerned about controlling the behaviour of his students. In visualising the lesson he appeared to anticipate that some students would become bored through lack of activity and might disrupt the flow of the lesson. In modelling Ray’s approach to lesson planning, it may be suggested that his interpretation of the role of the teacher was predominantly from a “subject perspective”. This was reflected in his concern that the “product” of the lesson should be related to “student achievement” while the “process” of the lesson should not necessarily be related primarily to students’ “learning” but rather to their “behaviour”. Ray concluded his explanation of how he approached lesson planning by saying “I like to be prepared because I don’t want to be embarrassed”.

This latter comment of Ray’s may serve to demonstrate that the decisions teachers make when lesson planning are linked to their desire to preserve their self-identity or self-image. The decisions Ray made in his lesson planning were related to what was already contained within his internal context. During the process of lesson planning, decisions Ray made with reference to one aspect of the lesson plan gave rise to internal stimuli from his internal context, so that the process of planning and decision making may be conceptualised as a dynamic interacting process, in which some decisions which at the initial stages of planning may have been tentative, would as a consequence of recycling through the teacher’s internal context, become confirmed.

In reporting how he approached lesson planning, Ray’s statements about his decision making were limited to those “conscious” decisions which he made with reference to the content, resources and structuring of the lesson. The decisions he made with regard to his students’ attributes and those which reflected his self-image, were made “outwith his

awareness” and not considered by Ray as constituting decisions.

### **Updating of Typology Aim I**

Trough the extended analysis of the case study 1 interview transcript and also the review of the other 8 transcripts, the typology was being tested by the application of fresh data. As will have been seen from the discussion, it was deemed necessary and appropriate to develop the typology by adding further distinct types of decisions. The preexisting Types A, B and C were refined by being categorised in two temporal dimensions. Thus, all former Type A, B or C decisions, if retrospective in nature, would be reclassified by the suffix “H” to denote an “historical’ orientation, and those prospective in nature would be reclassified by the suffix “F” to denote a “futuristic” orientation.

In addition, the previous type D was elaborated in two dimensions : positive (+D) and negative (-D). Another innovation based upon the data emerging from the lesson planning interviews , was to categorise type D decisions (which are essentially concerned with proposing to take action) which have been put into action, or operationalised, as Type “O” decisions. These additions are incorporated in the updated list of types shown in Table 53 below, which summarises the typology as developed up to this stage

### **Updated Typology**

<b>Classification</b>	<b>Purpose</b>
Type A decision	Categorises or classifies information or data
Type B decision	Interprets or resolves the meaning of data.
Type C decision	Evaluates information or data.
Type H decision	Type A, B or C decisions which are related to “historical” contexts, that is, decisions which are made which relate to events in the past.

Type F decision	“Futuristic” Type A,B and C decisions which are related to events which have not yet taken place.
Type +D decision	The resolution of information, or data, which gives rise to an “intention” to take a specific course of action, in order to bring about a desired outcome.
Type -D decision	The resolution of information, or data, which gives rise to an “intention” not to take a specific course of action; in order to avoid an undesirable outcome.
Type O	The operationalisation of a Type D decision
Type In D	Indecision, the failure to reach a decision.

**Table 53 Updated Typology**

**(iv) Testing Types, Categories and Models (Aims I, III)**

The newly extended typology was now tested for saturation by being applied in the context of a comprehensive list of 35 key decisions taken, in order of occurrence, from the interview transcript of Case Study 1. As can be seen from Table 54 (below) no further extension of the typology was necessary as a result of this exercise. The existing list of 5 organising categories identified in Phases I and II of the study, was tested by application to the same list of decision statements. In this case, a considerable development of the range of categories was required, the list being extended to 10. The new categories are included in Table 54 (below), and are summarised and coded along with the others in Table 55.

The data collated in the form of 35 statements, described by type and category, demonstrate the decision linkages which are coded by number in Table 54.



## Synopsis and Categorisation of Case Study 1 Data

<b>Decision Statements</b>	<b>Type</b>	<b>Category and Linked Decisions</b>
1. Read module descriptor.	+DO	Curriculum
2. I can teach learning outcome 1 no problem.	CH	Self-image. 1.
3. I don't want to teach learning outcome 1.	CF	Teacher's desire. 1.8.
4. I want to tackle something I've never done before.	CF	Teacher's desire.
5. Read module descriptor	+DO	Curriculum. 4.
6. Teach LO2.	+D	Teacher's desire. 4.5.
7. Select subject content of lesson	+DO	Lesson content. 4.5.6.8.9.10.18
8. Students will find learning outcome 1 boring.	CF	Students' attributes.
9. New material will capture students' attention.	CF	Lesson content. 10.
10. Students are prone to misbehave.	CH	Students' attributes.
11. I don't want students sitting around waiting.	-D	Teacher's desires.
12. Look for resources in college.	+DO	Resources. 7.9.11.
13. No suitable resources available.	CH	Resources.
14. Prepare resource material.	+DO	Resources. 13.17.
15. These will meet assessment requirements.	CH	Resources. 6.14.
16. These will guide students towards assessment.	CF	Resources.6.7.15.
17. I will aim my teaching towards the assessment.	+D	Strategy.
18. The resources include what students need to know to satisfy assessment requirements.	CH	Students' needs. 5.6.7.15.16.

19. Show students the work sheets.	+D	Activity. 17.
20. Tell them about assessment.	+D	Activity. 17.
21. Teach towards assessment.	+D	Strategy. 17.
22. Explain square prism.	+D	Activity. 17.
23. 3 practices is a waste of time.	CF	Time. 24. 33.
24. 1 practice will be enough.	CF	Students' needs.23.24.32.33.
25. I'll wait and see.	+D	Strategy. 2.3.24.25.32.33.
26. Practice of drawing prism then truncated cone will be enough.		Students' needs. (contradicts 24)
	CF	33.34.
27. More than this will take too much time.	CF	Time. 26. 33.
28. Break lesson into bits.	+D	Strategy. 10.11.
29. Give students 2 worksheets and the assessment.	+D	Activity 26.33.
30. Keep class together.	+D	Strategy.10.11.
31. If some students finish early they will become bored.	CF	Students' attributes. 11.30.
32. Allocation of time in lesson planning is difficult.	CH	Time. 25.33.
33. Base allocation of time on knowledge of students in previous lesson.	CH	Students' attributes. 32.
34. One work sheet plus assessment will be all right.	CF	Students' needs. 33.
35. Being well prepared avoids embarrassment.	CH	Self-image. 14.

**Table 54 Synopsis of Types of Decision and Categorisation of Case Study 1 Data**

**(v) Updating of Organising Categories (Aim II)**

The detailed analysis of the decision statements from the Case Study 1 interview

transcript and of statements organised by type and category (Table 54) shows that statements correspond, at this stage, to one or other of extended list of 10 categories. Of which 5 were established earlier in the study, tested and confirmed in this Section, and highlighted in Table 55 (below). The 5 new categories, emerged from the analysis of all 9 case study lesson planning interview transcripts. (for studies 2-9 see Appendix B)

For convenience of reference and for later analytical purposes, all of the categories are coded by letter (**A,B,C.....K**). These codes are presented in “**Chicago**” font and in bold, in contrast to the code letters for decision types, which are presented in “Times” font, plain text (see Table 55 below).

<b>Category</b>	<b>Codes</b>
<b>Curriculum</b>	<b>A</b>
<b>Self-image</b>	<b>B</b>
<b>Teacher’s desires</b>	<b>C</b>
Lesson content	<b>D</b>
<b>Student attributes</b>	<b>E</b>
Student needs	<b>F</b>
<b>Resources</b>	<b>G</b>
Strategy	<b>H</b>
Activity	<b>J</b>
Time	<b>K</b>

**Table 55 Categories and Codes**

### **Summary of Category Relationships**

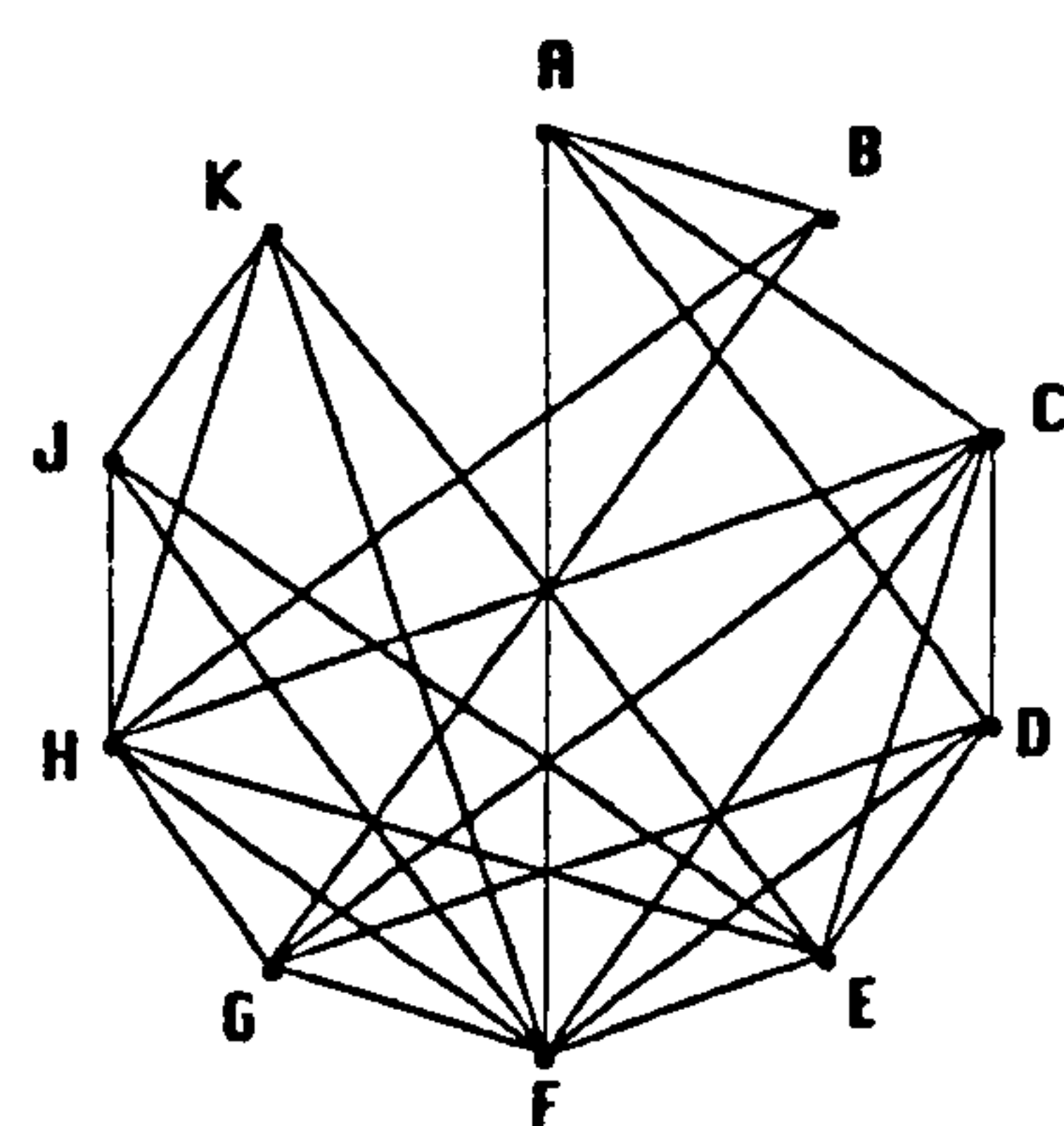
For clarity of exposition, the data derived and categorised up to this point in Section 9 are summarised and presented in tabular, matrix and diagrammatic formats ( see Tables 56, 57; Figure 5 below). The tabular presentation, in particular, allows the linkages between decisions, to be clearly seen.. The matrix and diagram further condense the presentation

presentation of the data in order to facilitate the presentation of data from all 9 case studies in one, combined diagram.

Code	Category	Decisions	Linked decisions	Code
<b>A</b>	Curriculum	1.5.	4.	<b>C</b>
<b>B</b>	Self-image	2.35.	1.14.	<b>A.G.</b>
<b>C</b>	Teacher's desires	3.4.6.11.	1.8.5.	<b>A.E.</b>
<b>D</b>	Lesson content	7.9.	4.5.6.8.10.18.	<b>A.C.E.F.</b>
<b>E</b>	Student attributes	8.10.31.33.	11.30.32.	<b>C.H.K.</b>
<b>F</b>	Student needs	18.24.26.34.	5.6.7.15.16.23.24. 32.33.34.	<b>A.C.D.</b> <b>E.G.K.</b>
<b>G</b>	Resources	12.13.14.15.16.	6.7.9.11.13.14. 15.17.	<b>C.D.H.</b>
<b>H</b>	Strategy	17.21.25.28.30.	2.3.10.11.17.24. 25.32.33.	<b>B.C.E.F.K.</b>
<b>J</b>	Activity.	19.20.22.29.	17.26.33.	<b>E.F.H.</b>
<b>K</b>	Time	23.27.32.	24.25.26.33.	<b>E.F.H.</b>

**Table 56 Categories Linked by Decisions**

	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>	<b>J</b>	<b>K</b>
<b>A</b>		*	*	*		*				
<b>B</b>							*	*		
<b>C</b>				*	*	*	*	*		
<b>D</b>					*	*	*			
<b>E</b>						*		*	*	*
<b>F</b>							*	*	*	*
<b>G</b>								*		
<b>H</b>									*	*
<b>J</b>										
<b>K</b>										



**Figure 5 Graphic Diagram of Category Linkages (Case Study 1)**

**Table 57 Matrix of Linked Categories**

## **(vi) Developing the “Internal Context” Model**

In phase I, of the study an attempt was made to describe what was termed the internal context of the practitioner. The discourse was in fairly general terms, resulting in the identification of a comparatively small number of broadly defined, comprehensive categories. They were also limited by the way in which the data was processed: essentially, the 24 interviews were compressed into one comprehensive “case study”.

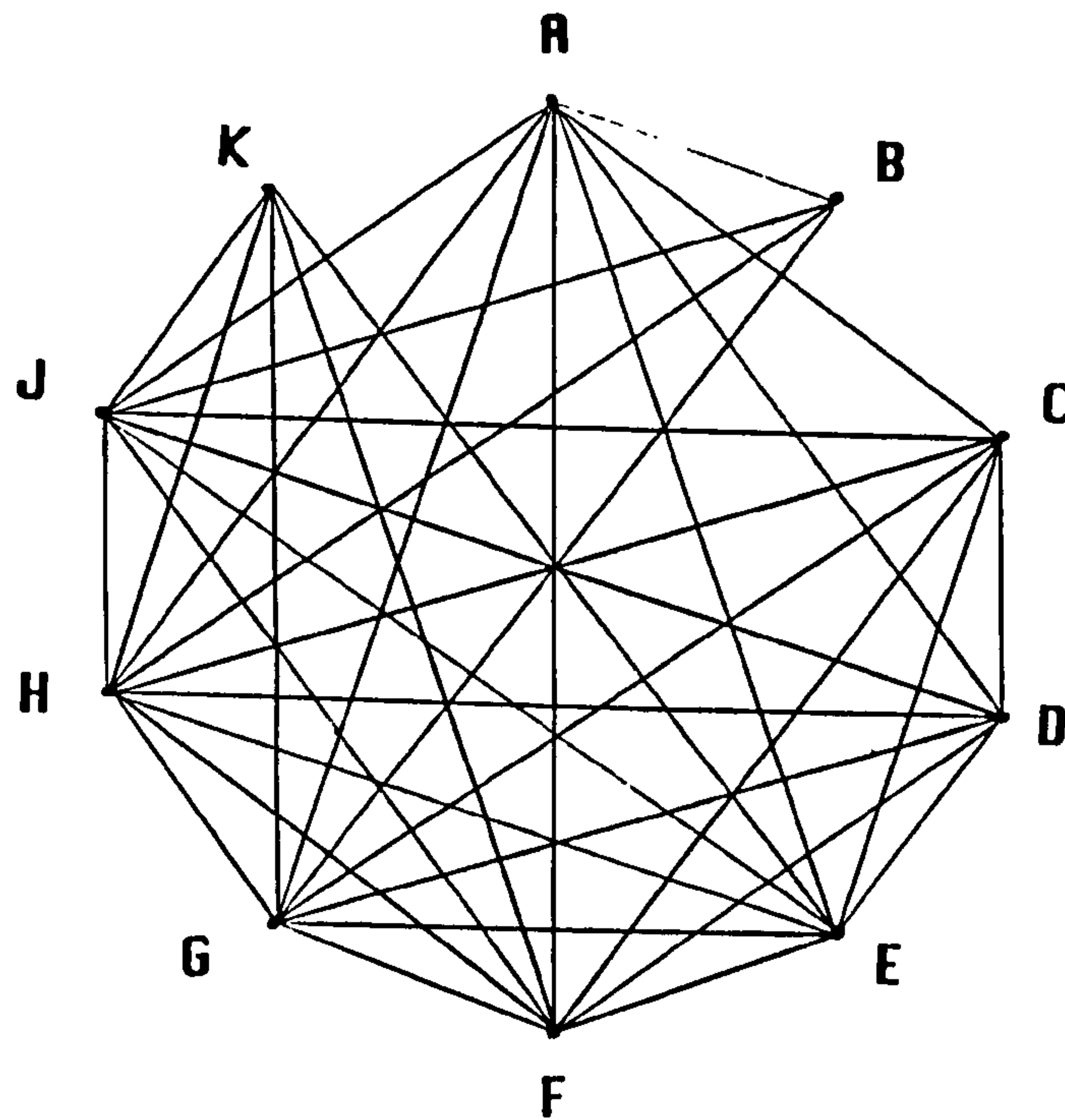
As a result of the broadening and deepening of the study in phases II and III, through the application of an appropriate range of research methods to a more complex agenda, the structure of categories was tested for saturation and subsequently developed and extended. A series of individual interviews was carried out in phase III, transcribed and analysed separately. As explained above these analyses led to the extension of the structure of organising categories to 10 and therefore of the range of potential linkages between practitioners’ decisions.

An effective way of representing the greater complexity of structure and the discovered interdependencies and functional linkages was devised, in the form of diagrams summarising all of the case studies (see Figure 7 above and Appendix B). Every such a diagram is a snapshot of the “internal context” made explicit by one individual, at one time, in a given context. This method of presentation has the advantage of illustrating more clearly the potential linkages between the established categories, making comparisons more straightforward and clear between the same practitioners at different times and in different circumstances, and also between different practitioners under similar circumstances.

The two methods of presentation, in matrix and diagrammatic formats, are contrasting ways of representing the same concept of the teacher’s internal context. The criterion for the adoption of one or other being fitness for purpose, given the state of complexity of the context. The first, although comparatively simple and general, is incapable of offering an impression of the dynamic interactive processes with which practitioners are involved in their working lives. The second is better adapted to illustrating a series of

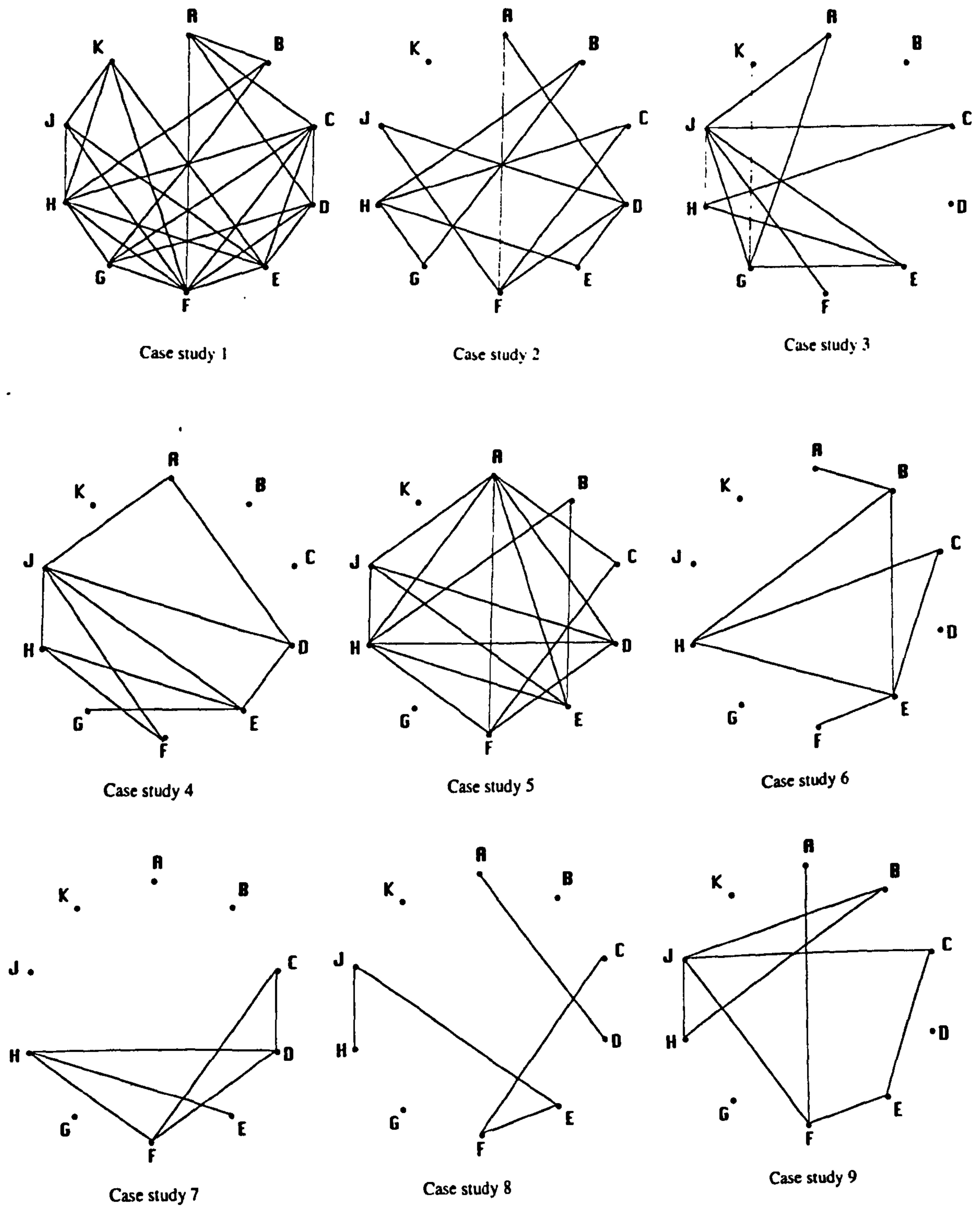
comparative static situations where an individual practitioner is involved in decision making over the extended range of categories implied by for example, the planning process.

The diagrams of category linkage for the 9 case studies lend themselves to being amalgamated into a comprehensive summary. This is found in Figure 6 below.



**Figure 6 Model of the Internal Context**

The diagrams devised from the analysis of all nine planning interview transcripts (case studies 1-9) are shown, for summary and comparative purposes, in Figure 7, below.



**Figure 7 Internal Context Diagrams, Case Studies 1-9**

In order to show the normative use of categories employed by teachers, the distribution of categories derived from each of the case studies and the rank order of usage is shown respectively in Tables 58 and 59 below.

Category	Case Study number									Total
	1	2	3	4	5	6	7	8	9	
<b>A</b> Curriculum	*	*	*	*	*	*		*	*	8
<b>B</b> Self-image	*	*			*	*			*	5
<b>C</b> Desires	*	*	*		*	*	*	*	*	8
<b>D</b> Content	*	*		*	*		*	*		6
<b>E</b> Student Attributes	*	*	*	*	*	*	*	*	*	9
<b>F</b> Student Needs	*	*	*	*	*	*	*	*	*	9
<b>G</b> Resources	*	*	*	*						4
<b>H</b> Strategy	*	*	*	*	*	*	*	*	*	9
<b>J</b> Activity	*	*	*	*	*			*	*	7
<b>K</b> Time	*		*							2

**Table 58 Distribution of Categories employed in Case Studies 1-9**

Category	Usage
Student attributes	9
Student needs	9
Strategy	9
Curriculum	8
Teacher's Desires	8
Activity	7
Lesson content	6
Self-image	5
Resources	4
Time	2

**Table 59 Organising Categories in order of Usage**

### **(vii) Concept Development from Teachers' Lesson Planning Decision Making**

The ways in which teachers talked about their lesson planning suggested that the decisions which they made with reference to different aspects of lesson planning were inextricably inter-related. A similar pattern of decision making emerged from the



investigation of teachers' lesson planning as that found from analysis of interview transcripts. Decisions made with regard to one aspect of lesson planning appeared to influence and be influenced by decisions made with regard to other aspects of lesson planning. The pattern of decision making of teachers' lesson planning which emerged from the analysis appeared to be consistent with the relationship of decisions found earlier in the study.

Teachers' decisions as discussed in analysis of interview and questionnaires, (Sections 7 and 8) were related to their past experiences and therefore have an "historical" orientation, teachers' decisions related to lesson planning however appear to have both an "historical" and a "futuristic" orientation.

Within the study, all of the teachers had made decisions with regard to lesson planning. The stimulus which initiated their decision making emanated from their knowledge that they were programmed to teach a particular module to a designated group of students within a specified timeframe. This response to a stimulus was conceptualised by the researcher as a "decision call", in the absence of which no decision making will take place.

In the case Ray (case study 1) who was not timetabled in the same way as the others had been, he explained:

"The head of department asked me if I would like to do workshop drawing and I don't usually do that. I have been in the college now about two years and I mainly teach workshop lessons, but I was interested to try something new so I said O.K."

In this case, as in the case of the other teachers, the initial stimulus to plan a lesson was an "external stimulus." Having recognised this stimulus, further stimuli related to teachers' decision making appeared to emanate from their internal context.

The way in which Ray described his lesson planning suggests that though he had spent a

considerable amount of time in preparing resources, the decision making process with regard to his lesson planning was not in itself a lengthy time consuming process. On the contrary, the relationship between what he was going to teach, what was required from the modular descriptor, and how the students may respond to this, may be described as the making of “routine” decisions, together with some evaluative “reflective” decisions. Teachers’ lesson planning may be described as “A mental process, (part of which is within and part of which is outwith the awareness of the teacher) which attempts to develop a strategy for teaching, which is congruent with their own self-image, beliefs, values, and efficacy to manage the subject matter of the lesson and the behaviour of the students, and in so doing satisfy the ever increasing demands from those in authority to deliver a curriculum within prescribed guidelines.”

Conceptualising lesson planning in this way provides a context which is consistent with the findings of studies on teachers’ lesson planning reviewed earlier in the study.

### **Decision Space and Teachers’ Lesson Planning Decisions.**

In lesson planning, the teacher’s “decision space” with regard to the content of a lesson is not limited to a literal interpretation of modules or unit descriptors, but is widened by their Type C decisions related to their self-image, particularly with regard to their subject expertise and confidence in managing students’ behaviour. The teachers who perceived themselves to be confident in this respect tended to employ more flexible strategies of teaching than those who were less confident. The teaching strategies teachers intended to adopt were also influenced by their Type C decisions related to their students’ attributes based on their previous experiences, which influenced the ways in which they anticipated students’ responses and behaviours.

It may be suggested that teachers who construe their role as teachers from a subject perspective, have a greater tendency to restrict their decision space by following the modular descriptor more closely and structuring their lesson planning towards students’ assessment, than teachers who construe their role of teaching from a person perspective in which their lesson planning is influenced by their evaluation of what they consider

students should know, or understand. Teachers who construe their role from a person perspective also appear to teach towards the higher levels of learning taxonomies, ie comprehension, analysis, evaluation and synthesis, rather than simple acquisition of knowledge and skills.

### **Interim Summary**

Teachers' lesson planning decision making appears to be a combination of inter-related elements. Teachers evaluate their individual prior experiences and their concepts of self-efficacy, and couple these with a concern to address the perceived needs of their students, while at the same time satisfying the range of demands which emanate from the management and organisational structure of their respective colleges or departments.

The amount of time individual teachers devote to reflection upon alternative strategies and likely outcomes, appears to be a function of their familiarity and confidence related to the subject matter to be taught and the kind of relationships they have experienced and anticipate they will continue to have with their students. The above observations are supported by the analysis of teachers' reviews of their lessons in the following Section.

## **SECTION 10 TEACHERS' REVIEWS OF THEIR LESSONS**

### **(i) Brief Introduction and Rationale**

This short Section draws upon the same data sources as the preceding Sections, uses similar analytical methods, but in a different context. In terms of Jackson's phases of teaching (see Section 5), Section 9 concentrated upon deriving and analysing data from the precative (or planning) phase of teachers' decision making: the preparation for the interactive (or delivery) phase. Analysis of the latter phase is not a subject of the present study, although reference is made in the course of the literature search to the work of some of the many researchers who have focussed upon classroom interaction and interactive decision making. (see Section 5)

The particular context of the present Section is, in Jackson's terminology, the post-active (or evaluation) phase of practitioners' discourse and the decision statements embedded in it. The nine subjects were engaged in post-lesson discussion, and their retrospective commentaries upon the lesson planned and delivered by them were recorded and transcribed. As in previous phases of the study, analysis of the transcripts permitted the isolation of a range of decision statements which could be used, as before, in the ongoing validation of types and categories as well as throwing light upon the nature of teachers' evaluative processes.

The aims of this Section, therefore, are as follows:

- Aim I** To test and, if appropriate, extend the typology of decisions and structure of organising categories developed up to this point.
- Aim II** To identify the potential contribution of evaluative decisions to the development of a model of practitioner decision making.
- Aim III** To identify and describe practitioners' approaches to evaluation of their lessons.

## **Case study 1: Ray**

When asked “Ray, how do you think this morning’s lesson went?” he replied:

Well, I think very much the way I planned it. There were a few surprises with individuals who were a bit slower than I had anticipated. When I first started the lesson I was a wee bit nervous, but then I just went into auto-pilot, so to speak..... you see, to me, you either like teaching and enjoy it, or you shouldn’t do it. That is just my feeling.”

Ray explained that his nervousness stemmed from his being observed while teaching. He explained that, after 2 years as an F.E. teacher, this was the first time anyone other than a student had sat in on his lesson.

When asked “where does your enjoyment come from?” he replied:

“My enjoyment is in seeing the students understand the material. You can see that if you go around and look at the drawings. There were a couple of guys who had slight problems and I know where these problems are, but I enjoy the actual teaching. Even when I was in Industry I was instructing to a certain extent in the joinery shop. I think also, because of my age, I can relate a lot better to these students.”

Ray was in his mid-twenties and his students were aged 16 to 20. When asked to explain what he meant by “relating better to these students”, he replied:

“Well, I have to be honest in this in saying that some people in F.E.....I’m talking about other lecturers.....have not got the approach that I have. I mean, I think they have lost touch with what education is about, just in their approach, the way they handle students.....I think you've got to make it seem interesting, seem enjoyable, don’t march in and say “You will do what I say.” I like the

students to feel relaxed when I've got them, but they must know to show me respect and, in return, I'll be there to guide them and give them any assistance they need and any information that they want. I'm just saying that doesn't happen in all classes, that is just my personal opinion."

Ray appeared to be very self-conscious about his age, and of being new to teaching. He had explained earlier, in the course of general discussion, that, ever since his appointment, he had felt uncomfortable in the staff room. As a student, he had attended the college in which he was now teaching; his present colleagues had been his lecturers. As a result, he felt that he had not yet been fully accepted as a member of staff, and that he was treated as though he was still a student.

When asked what he meant by reference to "a few surprises," Ray explained:

"Well, what I mean is that when I was doing my lesson plan, I had set out the things in terms of content - method, content - method, then I reduced it just to a table of content, so that I knew what I was going to cover. Now I had that contents list in front of me and I looked at it a couple of times before the break but never during the lesson, so that once the lesson actually got going the lesson plan was not used. The contents list was used as a sort of reminder just to remind me what the next step was because I had planned it in advance I knew what the next step was going to be."

Ray explained that he had had no guidance in lesson planning until he attended the In-Service Teachers' Training Course at the Scottish School of Further Education at Jordan hill.

"I think if that kind of thing had been available to me when I first came into FE, I would have found it a big help. I could have started doing this two years ago if I had been introduced to it when I first came into F.E. I remember two years ago I was sitting downstairs and saying to myself "Well, where do I start?" That's because I was just left to my own devices. If someone could have shown me that

then, that would have been a big help. I think I could have had a better product two years ago. I found that the lesson plan to me was of 99% benefit because I knew exactly what I was going to do before I went into the classroom.”

In recounting how the lesson had developed, Ray said:

“The content of the lesson and the sequence in which I delivered it was as I planned, but I changed the time. In fact, the time changed itself, the time really depends on the students. When they came to start the assessment, they were 20 minutes behind what the lesson plan said, but that is not something that worries me, so instead of completing the assessment, they’ve just started the assessment but they can finish that later.”

Ray went on to explain that the students were Construction Industry Training Board (CITB) students who were on block release and were about to return to their work place for the next 5 weeks; as was his normal practice, he had given them model answers to compare these with their own worksheets. They would continue with the assessment on their return to college.

Ray then started to talk about his relationships with his students. He explained that he had taken the students for workshop practice related to door construction, but during the 4 weeks during which he was at Jordanhill, the students had been instructed by other lecturers. He explained that, when he returned from Jordanhill,

“I had lads coming up to me and saying ‘I thought we were supposed to get you this year.’ That’s feedback to me, O.K. so when they first came in they thought it was school but eventually I got them knuckled down. I took them round the workshop showing them that they had to do and what they would be doing. ‘It’s basically up to you. I don’t really like to insist on things but, as I say, I like respect and with that group I definitely got it.”

At this point in the discourse, Ray appeared to become quite emotional, and though he

had digressed from reviewing his lesson, it was considered appropriate that he be allowed to continue in this vein, no attempt being made to interrupt him nor to re-focus the discussion. In continuing to talk about his relationships with his students, he said:

“Now, I don’t mean this with any disrespect to any other lecturer, but when I started with this group, because I hadn’t had them from the beginning, I had problems with them. They weren’t giving me any respect that I thought I was due, they just weren’t giving me respect and I had a few discussions with the lads and I said ‘Look, lads, it isn’t school, you’re adults, you’re grown up, this is the ground rules in the workshop. This is the ground rules in here, and they are starting to come round with me. Now I am not saying in other classes they are running amok, what I’m saying is they know when they come into my class what they have got to do.”

When asked “Are you saying it’s better for you and the students if you start with a new group?” Ray replied:

“Yes, because I’m saying that I have a good relationship with the students because of my age. I think initially me coming in after they had started for 4 weeks went against me. They were just saying ‘Who is he? Who does he think he is? It definitely went against me because I was just not getting any respect that I should have been getting and a few harsh words had to be given out and now they are starting to come round, they appreciate the level of guidance that I give them if the respect is there. I’m not saying they will not get it, I’m just saying it is a more enjoyable lesson if they give me respect and they know that.”

To bring the focus of the discussion back to the lesson, Ray was again asked “How do you feel the lesson went this morning?” To which he replied:

“I can’t say I’m disappointed because they never completed the assessment. I think I’m quite happy with the product I’ve got here.”



Ray was then asked “If you had to do this lesson again with the same kind of students, would you do it exactly the same, or would you change anything ?”

“I would jump at the chance to do it again because I think that I’ve got a product here which is good. Everything is easier once it’s planned and the second time you do something it’s always easier. It’s not going to be any easier for another block of students, but it’s certainly easier for me as a teacher.....I would be more enthusiastic to do this again now that I’m well prepared, but if I wasn’t teaching this again, I would give the stuff that I had prepared to other lecturers because you’ve got to be confident about your product. If I wasn’t confident I wouldn’t give it to the boys. You know, I’m quite proud of the work that I have done. I know it’s only a couple of worksheets but it’s a couple of worksheets more than there was down there to start with. A lot of people produce things in F.E. colleges and they just say ‘That’s fine’, but I like to give my material to other lecturers if they want to share it, if they want to use it. There’s no point in keeping stuff to yourself. If I just use it for me it is only 10 students who get it, but if I share it around there’s another 50 students can benefit.”

The above extract from Ray’s review of his lesson suggests that the major focus of his concern was his “self-image”, evidenced by his concern to gain respect from his students and to be seen by his colleagues to be competent in preparing student resources of high quality.

Throughout the review, Ray consistently made comments which suggested that being treated by his students with respect provided a basis upon which he evaluated his self-image. His perception of the role of teacher appeared to be orientated more towards a subject perspective than a person perspective, being more concerned with students’ achievement in understanding subject matter than in responding to their non-academic needs as individuals.

In the review of the lesson, it is apparent that Ray used his lesson plan as a means of clarifying his intentions with regard to the sequencing of activities and of assessing the

amount of content which had been successfully absorbed or understood by his students. That not all of what he had planned had been accomplished by the students was not considered by Ray to be of great concern; rather, his review suggested that he was more concerned with the quality of students' understanding of what was taught than the quantity of material which he had intended to teach.

A slight initial nervousness, caused by the presence of an observer, appeared to be quickly overcome by his enthusiasm for teaching. The general impression gained from observations of Ray's teaching and his review of his lesson was that his desire was to be recognised as a good teacher, that is, one respected by his students, whose subject matter is carefully prepared and structured into what he referred to as "a good product." The overall impression is that his internal context is likely to be reinforced rather than changed.

## **(ii) Summary and Linkages**

With regard to the stated aims I and II of this Section, analysis of statements arising from interview data led to the identification neither of new types of decisions nor of new organising categories. In other words, the structures of decision types and of organising categories and their linkages are found to be similar to those established in earlier stages of the study.

Turning attention to aim III, a parallel may be found in the approaches to planning as described in Section 9: the anticipation of the outcomes of planning decisions through the visualisation of the process of implementation and of students' progress. This mental process seemed to bear a strong relationship to the nature of teachers' internal contexts, formed and identified by experience. Rather similarly, when teachers came to evaluate their own planning and implementation, their views of how the review process would affect the future, i.e. how they visualised its effects upon subsequent plans and methods of delivery, could be seen to be to the content and organisation of their internal contexts.

Comparison and contrast of the nine lesson review transcripts revealed that all of the

teachers shared two criteria in their interpretations of the extent to which their plans had been fulfilled in practice. These criteria were:

- \* the degree of students' achievement, as formatively assessed,
- \* the amount of content covered in the lesson compared with the prepared subject matter, able to be delivered,

All of the teachers agreed that the measure of students' achievement and the content covered (within the lesson) had fallen short of their anticipations. The time required for different activities had been difficult to anticipate, and consequently had often been too optimistically estimated.

In essence, it appeared that the outcomes had frequently fallen short of their planned intentions. This shortcoming was rationalised as a consequence of the difficulty of predicting the pace of students' learning, not as a serious planning failure; cognizance could be taken of the content not covered in the present lesson, and time allocated to do so. Of greater concern to all of the subjects than the proportion of subject matter covered within the lesson, was the quality of students' understanding of the content actually covered.

As a result of a comparative analysis of teachers' commentaries, two broad approaches to evaluation emerged, which seemed to correspond to teachers' different attitudes towards their own self-image. These approaches were classified by the researcher as "confirmative" and "progressive"

### **Confirmative Approach**

Here the teachers' major concerns are to maintain their self-image. Perceived shortcomings in the achievement of the teachers' intentions are rationalised in terms of students' attributes, not of skills in planning or implementation by the teacher. The consequence of adopting this approach is the inhibition of constructive modification of the teacher's internal context: they are likely to fail to recognise stimuli which may lead

them to change plans or implementation strategies for use in future lessons.

*flow*  
— **Progressive Approach**

Teachers who adopt this broad approach to review or evaluation of their teaching are prepared to ascribe at least some of the shortcomings of their lesson implementation to their own abilities and skills. Teachers in the study who adopted this approach evaluated their lesson plans during the lesson, and were prepared to change their earlier decisions as a consequence of how successful their students appeared to be in understanding the lesson content. They were also more prepared to change their approach to planning and implementation for future lessons.

Firstly, the formulation of an operational definition of the concept “decision” made possible the consistent categorisation of teacher statements as decision statements or not, and was the foundation for the development of a series of standard decision types, which are effectively forms of decisions, conceptually distinguishable but not necessarily individually isolable in practice.

Secondly, arising from interview and questionnaire data throughout all phases of the study, a series of organising categories was elaborated; these categories signify the substance or content of decisions, and eventually extended to 12 in number, to encompass all properly-defined decisions isolated in the course of the study. Definition, typology and categories were all tested and, where appropriate, extended through the process of constant comparative analysis as the research progressed: decision making is not amenable to study as an accumulation of single, independently-describable events, nor is a simple linear or sequential approach helpful; rather, the process is better viewed and approached holistically.

These key components were combined in order to produce tabular and diagrammatic presentations of decision types and organising categories which emphasise the linkages and interrelationships between them, and also the dual nature of the contexts (internal and external) in relation to which the decision maker operates.

### **Key Components of Model: Summary**

- \* **The operational definition** of decision is: “ The removal of doubt or uncertainty from one’s mind about accepting a proposition in circumstances where an alternative proposition could be suggested.” The adoption of this definition of decision confers the advantage of identifying decisions without any *a priori* assumptions about the nature of the decision making process, and without having to rely upon the ability of teachers to articulate and rationalise their own decision making processes.

## **SECTION 11 DEVELOPMENT OF A MODEL OF PRACTITIONERS' DECISION MAKING**

### **(i) Brief Introduction and Rationale**

In this Section of the study, key concepts identified, developed and consolidated in previous Sections of the study are brought together to address the overall intention of the project: to develop a greater understanding of decision making by individual practitioners of teaching in the Further Education Sector (see p. 3 above).

The means of satisfying the intention of the study is to provide a positive response to the stated central research question: "Can a consistent and useful descriptive model of teachers' decision making be constructed?" (see p. 4 above).

Extensive literature search discovered a wide range of relevant contributions to the understanding of decision theory and to teachers' classroom interaction ; however, as explained earlier some deficiencies were apparent. For example there were no generally and widely applicable accepted definition of the concept "decision"; many approaches centred upon the process of decision making as a response to the actions of others e.g. teachers' responses to student actions in primary and secondary classroom contexts. There was an apparent lack, therefore, of systematic and cumulative knowledge about teachers' decisions and how they are made.

The main original contribution of the study, consequently, is the development of a model, encapsulating the actual practice of teachers' decision making, which might demonstrate potential for generalisation within the professional area of teaching and perhaps beyond. This model is described, explained and exemplified in this Section.

The analytical tools, derived through earlier phases of the study and without which attempts to record and analyse the decision making process would be difficult or impossible, are the components of the descriptive model and are summarised here.

- \* The **typology** of decisions, which classifies decisions in accordance with the purpose they serve for the decision maker, is as follows:

<b>Classification</b>	<b>Purpose</b>
Type A decision	Categorises or classifies information or data.
Type B decision	Interprets or resolves the meaning of data.
Type C decision	Evaluates information or data.
Type H decision	Type A, B or C decisions which are related to “historical” contexts, that is, decisions which are made which relate to events in the past.
Type F decision	“Futuristic” Type A, B and C decisions which are related to events which have not yet taken place.
<b>Note:</b> In the making of type H decisions, the decision maker has the benefit of “hindsight”. In the making of Type F decisions, the decision maker is “looking to the future.” In practice, Type F decisions may be influenced by Type H decisions, in the same way as experience of past events informs predictions.	
Type +D decision	The resolution of information, or data, which gives rise to an “intention” to <b>take</b> a specific course of action, in order to <b>bring about a desired</b> outcome.
Type -D decision	The resolution of information, or data, which gives rise to an “intention” <b>not to take</b> a specific course of action; in order to <b>avoid an undesirable</b> outcome.
DO Decision	The <b>O</b> denotes that the type D “intention” was in practice “operationalised.”
In D	Denotes “indecision.”

\* The following list of **organising categories**, as used in the model, has no hierarchical implications in terms of the order of presentation here.

<b>Teachers' Desires;</b>	<b>Teaching Strategies;</b>	<b>Resources;</b>
<b>Curriculum;</b>	<b>Managers;</b>	<b>Students' Needs;</b>
<b>Self-Identity;</b>	<b>Colleagues;</b>	<b>Lesson Content;</b>
<b>Students' Attributes.</b>	<b>Activities;</b>	<b>Time;</b>

## **(ii) A Model of Practitioner Decision Making**

In this study it has been accepted that decision making takes place in dual contexts: in the environment and in the mind of the decision maker, in this case the teacher. It is also held that decisions can be made in both the conscious and the subconscious mind. The external environment, the conscious mind and the subconscious mind can therefore be regarded, for the purposes of studying decision making processes, as aspects of a symbiotic, interactive relationship.

The model to be presented in this Section seeks to illustrate this triple relationship by means of a number of pathways which are an interpretation of functional connections based upon analysis earlier in the study. Collectively, they may serve to give some insight into a process which, by its very nature, is not susceptible to direct observation. The model is intended as an aid to the description of any individual practitioner's decision making, and does not, in itself, convey or imply any value-judgment about the comparative quality of decisions.

The model is represented in Figure 8 below; it depicts stages in a practitioner's decision making by means of a series of pathways connecting key junctures in the process, and through the connections between the environmental context and the mind of the teacher. At the centre of the model are shown the categories and interconnections which constitute the teacher's internal context; here, decisions are stored and /or processed.



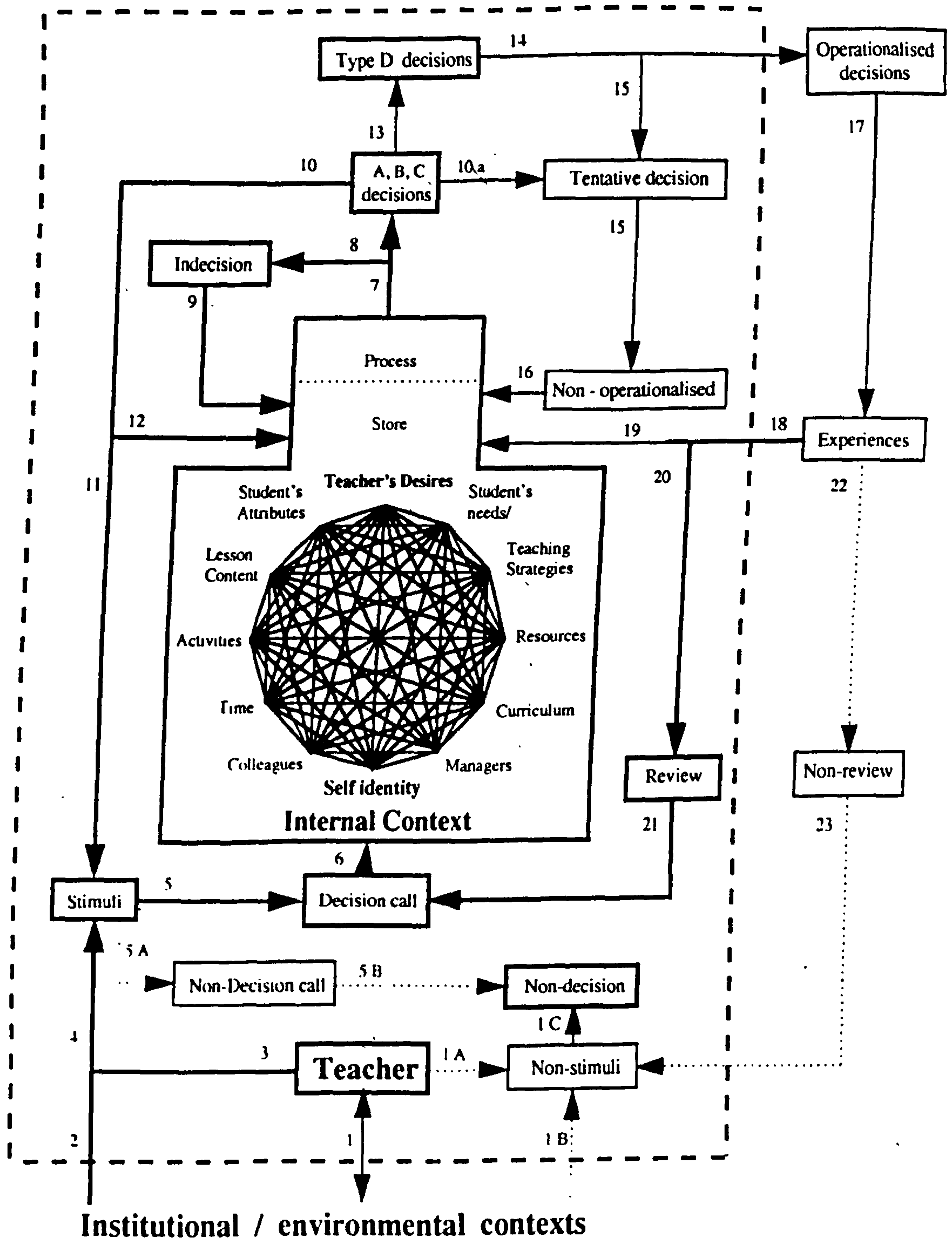


Figure 8 A Practitioner Model of Decision Making

### **(iii) Interpretation of the Practitioner Model of Decision making**

#### **Contexts of decision making**

The process of individual decision is envisaged as taking place within dual contexts, which may be conceptualised individually, but in practice are reciprocally influential. Pathways and junctures outwith the dotted rectangle are concerned with aspects of decision making which involve the decision maker interacting with the environment. Pathways and junctures within the dotted rectangle are concerned with aspects of decision making which involve no interaction between the decision maker and the environment. The internal context of the decision maker is shown in the centre of the model, enclosed within a solid line.

#### **Initiation of the Decision Process (paths 1-6)**

Path 1 illustrates the fact that teachers are in reciprocal relationship with the environmental context. The decision making process is conceptualised as being initiated by a stimulus, or a number of stimuli. Stimuli may independently emanate from the environmental context (Path 2), or from the teacher (Path 3), or a combination of both, so that the activation of Path 4 may result from either or both of these sources. Stimuli which are responded to by the teacher (Path 5) give rise to a “decision call.” A decision call is conceptualised as a mental trigger mechanism which initiates the process of decision making (Path 6). Stimuli which are not responded to by a decision call (Path 5A) lead to a “non-decision call” and, ultimately, to “non-decision”

#### **Internal context**

The twelve organising categories, are at the nodes of the network. The lines connecting them illustrate the total potential interconnections between them. These categories and linkages are “stored”, and provide the mental framework within which the process of decision making takes place. Much of what is stored and much of the processing is outwith a decision maker’s awareness.

## **Making “A,B,C.” Decisions**

### **\* Route I (Paths 7,8,9)**

The stimuli which give rise to a decision call are stored within the decision maker's internal context and initiate the process of decision making. If the process of decision making is inconclusive, then the outcome may be (Paths 7 and 8) “indecision” which, in turn leads *via* Path 9 back to the internal context store where it will then reside as “unfinished business”.

### **\* Route II (Paths 7,10,11/12)**

If the process leads to a Type A, B, or C decision, or a combination of these, but does not lead to full resolution, then these decisions will result (Paths 7,10 and 11) in further stimuli. The process from such stimuli through Paths 5, 6, 7, 10 and 11, forms a “decision making loop”. Within the internal context, each of the decisions made will confirm or amend the teacher's stored knowledge base. The number of times this loop is circumnavigated by an individual teacher responding to a stimulus will be influenced by the content and organisation of the individual teacher's internal context. Stimuli with which the teacher are unfamiliar is likely to require more thorough processing, by circumnavigating this loop a greater number of times than is necessary to process more familiar stimuli. The decision making process stops when a stimulus has been resolved by the making of a decision to the satisfaction of the decision maker (Paths 10 and 12). At this stage in the process, no further stimulus is created, and it can be said that the decision is now operational, in that it is stored within, and becomes part of the content and organisation of the teacher's internal context.

### **\* Route III (Paths 10a,15,16)**

Where the immediate operationalisation of a Type A, B or C decision is deferred, the decision making process leads (path 10a) to a tentative decision, which by its nature, is for the time being (path 15) non-operationalised. It is however (path 16) stored in the individual decision maker's internal context.

### **Intended Action : Type D Decisions (Paths 13,14, 15)**

The making of Type D decisions (path 13) is informed by the substance of the decision maker's store of Type A, B and C decisions, both operationalised and tentative.

When a Type D decision is operationalised the decision making process (path 14) becomes interactive with the environment. Alternatively, the Type D decision may (path 15) be tentative and is stored (paths 15 and 16) within the teacher's internal context and may be operationalised at some future time. Conversely, the non-operationalised Type D decision may require further processing along Paths 7, 8, 10, 11, 5 and 6 until it is ultimately accepted by the teacher *via* Paths 13, 14, 15 and 16, and stored for future use. Type D decisions, when operationalised, are activated within the environmental context. Decisions which are operationalised give rise (Path 17) to new experiences for the teacher. All experiences (through Paths 18 and 19) are consciously, or sub-consciously, stored within the teacher's internal context.

Where experiences are reviewed (Path 20) either during or at the end of an experience, the review will give rise (Path 21) to a decision call, which in turn gives rise to the process of decision making earlier described. The outcome of the process may be the "confirmation" of prior decisions or the making of new decisions. The former outcome will reinforce the content and organisation of the internal context of the individual, while the latter outcome will change its content and organisation.

Aspects of the teachers' experiences which are not reviewed (Path 22) provide no stimuli for decision making (Path 23) and consequently, give rise (Path 1C) to "non decision."

### **Non-Decision**

Non-decision may result from the teacher ignoring or discounting stimuli (Path 5A) leading to non-decision call and, ultimately, ( Path 5B) to non decision. Non-decision may also result from the teacher experiencing stimuli neither internally (Path 1A) nor from the environmental context (Path 1B).

## **Discussion of the Model**

The precursor to teachers' "action" in contrast to their "behaviour" was conceptualised as the operationalisation of their Type D decisions. Type D decisions are decisions which clarify the teachers' intentions to act in a particular way. An action being defined as "a 'purposeful' set of behaviours motivated by an intention to bring about a desired process and/or achieve a desired outcome from a process."

In all of the case studies of teachers' lesson planning, the teachers had operationalised Type D decisions. For example in their preparation of resources. In so doing, they had satisfied their desire to have available the resources which they considered necessary for the implementation of their lesson.

In implementing their lessons, the teachers operationalised their intentions by directing the processes and activities of their students. In lessons which took the form of didactic teaching, the processes engaged in were a "means" designed for the purpose of helping students to overcome the requirements of specific learning outcomes. So that, it may be suggested that the process was subordinate to the desired outcome. Lessons of this type reflected a teacher's "subject perspective." In contrast, lessons which were less didactic and reflected a "person perspective" as, for example in case 5 and case 6, were characterised by a desire that students should learn from participating in a particular process, the desired outcome of which was less amenable to objective assessment at the end of the lesson. The success or otherwise of the lesson therefore, was evaluated with reference to the process. So that the process may be considered to be both the means and the end which the teacher desired to achieve.

## **The theoretical development of the Internal Context**

The development of the concept of the internal context was informed by an interpretative "reading" of the literature of cognitive psychology which suggests that the mind assimilates and accommodates information in the form of schemata. The more sophisticated the schemata is, the more easily information can be accessed consciously

by the individual, and the more readily new information can be evaluated and assimilated. Cognitive psychologists focus substantially on conscious, rational and intellectual thought, while clinical psychologists focus essentially upon subliminal levels of consciousness which affect mental health and emotional stability. Cognitive psychology has been developed on the basis of experimental investigations while clinical psychology has substantially relied upon psycho-analytical techniques and the reporting of case studies.

Within clinical psychology there are two broad schools of thought, those who subscribe to the development of personality as a function of genetic inheritance, and those who hold that personality development is a function of environmental factors. Space does not permit a full discussion of this debate. What is pertinent to the present study, however, is the recognition that all psychologists subscribe to the proposition that early experiences of the individual, notwithstanding any genetic inheritance, has a powerful influencing effect upon the mental health of the individual and the decisions which they make in later life.

The theory of Transactional Analysis developed from the work of Eric Berne has removed much of the mystique from psycho-analytical techniques which have been developed from the work of Freud. Berne criticised Freudian psychologists, whom he argued, pursued psycho-analysis as a "treatment" but did not appear to conceptualise the possibility of a "cure." The basic tenets of Transactional Analysis as originally formulated by Berne is that individual personality is developed in early childhood by the ways in which individuals interpret their emotional responses in early childhood to the "messages" which they receive from adults. Such interpretation leads to a sub-conscious decision concerned with the individual's self-esteem, which in turn leads the individual to adopt a "life position" from which they subconsciously write a "life script" in which they cast themselves as a "victim", or a "persecutor." The scripts is then lived out by interpreting future events consistent with their adopted life positions. As more "evidence" is collected from experience, the life position is continually reinforced and confirmed, so that the script becomes a self-fulfilling prophesy. Berne's contention is that an unhealthy script is based upon decisions which the individual made in very early

childhood when they were dependent upon others, vulnerable to adult influences, and had not yet developed a capacity for clear or rational thinking. Berne argued that if inadequate life scripts were developed from early sub-conscious decisions made by the child when highly dependent and vulnerable, then with therapeutic intervention, it should be possible to assist the individual to re-evaluate these decisions and “re-decide”. Such a therapy is based upon engaging the client in rational, critical thinking, which changes the client’s belief system to one in which they can subscribe to a positive self-concept which increases their level of self-esteem.

An alternative (and sometimes complementary) therapy, is for the therapist to “re-parent” the sub-conscious mind of the client. Re-parenting involves redressing the balance of negative messages (which led to the adoption of a negative life position) by positive messages from the therapist and supporting the client through self “affirmations”. As these positive messages and affirmations are continually fed in to the sub-conscious, the client’s level of self-esteem increases and, in order to maintain consistency, the sub-conscious mind adopts a positive life position.

Individual decisions are always context-related to the individual’s internal context, in that the internal context contains, if not at a conscious level, then at a sub-conscious level, all of the prior decisions which the individual has made. These prior decisions are integrated into a knowledge base which, in addition to containing what the individual accepts as “facts”, establishes the individual’s value and belief systems. The ways in which the knowledge base and the value and belief systems are organised, provides a paradigm which informs future decision making.

This knowledge base and paradigm is subject to refinement and change as new information and new decisions enter the internal context. Once the knowledge base and paradigm has been substantially developed, however, there appears to be a sub-conscious tendency to make new decisions which confirm the knowledge base value and belief systems and the paradigm, so that over a period of time much of what is contained within the internal context becomes “taken for granted” by the individual.

Confronted with a state of affairs which has to be resolved, information or data which is consistent with the content and organisation of the internal context will more readily be accepted by the individual in their decision making, and may facilitate the making of “routine” decisions. In situations where the information and data is perceived by the individual to be in variance with their knowledge base and paradigm, greater conscious thought must be exercised and the decision reached is more likely, though not necessarily, to be “reflective” than “routine.”

### **Time space and decision making**

The time available to arrive at a decision may be influenced by environmental factors, but is ultimately determined by the individual decision maker (this determination may be a conscious or sub-conscious decision made by the individual). An inappropriate decision as to the time space available for decision making may lead the decision maker to make immediate decisions in circumstances which permit time for reflection. It may well be that novice teachers (in particular) do not clearly differentiate the concept of “importance” from the concept of “urgency.” The culture of an organisation may be such that decisiveness is viewed as a positive attribute and decisiveness is conceptualised as the making of immediate decisions, time spent in reflection being considered as an indication of indecisiveness. It may be suggested that the ability to differentiate urgency from importance is one hallmark of effective decision making. The making of immediate decisions, by definition, rules out time for reflection, and greater reliance therefore must be placed upon the content and organisation of the internal context for sources of information which can be utilised in the decision making process.

Conceptualising decision making as having dual contexts provided the key component of the foundation for the development of a descriptive model of practitioners' decision making.

The decisions which teachers make with regard to their environmental context are mediated by the content and organisation of the individual's internal context.



When the institutional or environmental context in which the teacher operates is viewed from the perspective of postmodernism, then it can be argued that this context provides a “text” which can be “read” and “re-read” to provide a variety of interpretations. ( see Stronach and MacLure 1997). Variation in the ways in which the text may be read (and interpreted) was evidenced in the decisions which individual teachers made in construing educational processes, (interviews and questionnaire data) lesson planning and reviews of their lessons.

Differences between the content and organisation of individuals’ internal contexts can help to explain why different researches may subscribe to different paradigms, and why expert practitioners responses to similar (if not identical) environmental situations differ from those of novices.

Differences between expert and novices’ “readings” of a situation (or text) has been succinctly presented by Benner (1984) in a comparative study of expert and novice nurses’ decision making in clinical practices in which she states:

“This difference (in how experts and novices approach problem solving) can be attributed to the know-how that is acquired through experience. The expert nurse perceives the situation as a whole, uses past concrete situations as paradigms and moves to the accurate region of the problem without wasteful consideration of a large number of irrelevant options (Dreyfus.H. 1979: Dreyfus. S, 1981). In contrast, the competent or proficient nurse, in a novel situation, must rely on conscious, deliberate, analytic problem solving of an elemental nature.

Expertise in complex human decision making, such as nursing requires, makes the interpretation of clinical situations possible, and the knowledge embedded in this clinical expertise is central to the advancement of nursing practice and the development of nursing science” (P 3).

Benner goes on to explain:

“Clinical knowledge is gained over time and clinicians, themselves, are often unaware of their gains.” (P 4).

Using ethnographic and interpretative strategies, Benner identified how expert nurses acquired, and used, extended practical knowledge. Benner’s investigations were founded on the Dreyfus model of skills acquisition (Dreyfus and Dreyfus, 1980, Dreyfus, 1981), which posits:

“a student passes through five levels of proficiency: novice, advanced beginner, competent, proficient and expert. These different levels reflect changes in three general aspects of skill performance. One is a movement from reliance on abstract principles to the use of past concrete experiences as paradigms. The second is a change in the learner’s perception of the demand situation, in which the situation is seen less and less as a compilation of equivalent, relevant bits, and more and more as a complete whole in which only certain parts are relevant. The third is a passage from detached observer to involved performer. The performer no longer stands outside the situation, but is now engaged in the situation” (Benner, 1984, P.13).

The Dreyfus model and the differences between expert and novice practice identified by Benner support the contention in this study that individual decision making takes place in a dual context. The environmental context of the Dreyfus model was that of chess players, and airline pilots. The environmental context of Benner’s investigations was that of clinical nursing practice, while the environmental context of the present study was that of Further Education teaching. The substantive decisions made in these contexts will be influenced by variables within the environmental context, but given the differences between experts and novices decisions, identified by Dreyfus and Benner, and the differences between teachers’ decision in the present study, the variables in the environmental contexts cannot be claimed to be “determinants” of the individual’s decision making. The differences between experts and novices, identified by Dreyfus

and Benner, and the differences between individual teachers in the present study, are not differences in the external context per se, but differences in the internal context of individual practitioners. So that an individual's decision may be said to be influenced by the inter-play, or inter-relationship, of both the environmental context and the individual's internal context. In that the environmental context is mediated through the individual's internal context, it is the internal context which is considered to be the most powerful influencing factor in distinguishing differences between how individuals decide and act within a common environment. This view is supported by Prosser and Trigwell (1999).

There is a received wisdom that "decisiveness" is a desired characteristic of managers, and this received wisdom has been carried over to apply also to teachers. Such received wisdom has the effect of encouraging managers and teachers to make "quick" decisions in order to exhibit this characteristic. This tendency may at least partly explain why a number of managers within education appear to be reluctant to encourage participative decision making within their staff, and why F.E. teachers, particularly in the early years of their experiences, are concerned that they may be perceived as incompetent if they seek advice or guidance from their managers or colleagues. Such a received wisdom may lead to a culture in which routine, or immediate decisions, are made from within an impoverished internal context. The making of high quality routine decisions requires that the content and organisation of the internal context has been established and developed by circumnavigating the decision loop and making Type C decisions in order to re-evaluate the content and organisation of the internal context, and so reduce the quantity of "indecision" which is stored therein.

The present study did not attempt to distinguish the quality of teachers' decisions, but focused upon the mechanism of the decision making process. The Practitioner model of decision making presented above, proposes that the mechanism of individual decision making can be applied to both expert and novice decision making. The differences in the quality of decisions made, as discussed by Dreyfus and Benner, and the differences in individual teachers' decisions found within the present study, can be explained by the differences in the content and organisation of the individual's internal context. As a consequence of critically reviewing their experiences, over a period of time expert

practitioners have developed an internal context which contains confirmation and reinforcement of prior “quality” decisions.

As expert practitioners acquire more experience and more confirmation of the appropriateness of their decisions, the speed with which they can process data through the model is increased, in that they rely more substantially upon the re-use of prior decisions.

## **SECTION 12 SUMMARY AND CONCLUSIONS**

### **Introduction**

The purposes of this Section are to:

- (i) Review the design and status of the study;
- (ii) Summarise its key findings;
- (iii) Outline potential utility of the findings to a range of users;
- (iv) Discuss the limitations of the study;
- (v) Identify issues relevant to but outwith the scope of the study.

#### **(i) Review of the design and status of the study**

The broad intention of the study, was “to develop an understanding of the substance and process of decision making by teachers in their professional lives”.

A review of an eclectic range of literature identified two areas of relative weakness in the programme of research on teachers’ decision making: Firstly, the dearth of studies focussed upon F.E. sector of education; secondly, and more generally, studies tended to focus upon discrete aspects of teachers’ decision making: there is no systematic, cumulative body of knowledge. The substantive area of this study and the methods of collecting and analysing data, designed to achieve its intention, offered the opportunity, at least in part, to address these weaknesses.

Literature review also guided the formulation of the central research question: “Can a consistent and useful model of teachers’ decision making be constructed?” and informed the researcher’s selection of an appropriate investigative approach.

#### **Design and status of the study**

In addition to the general weakness of the body of research in the area of teaching in the

F.E. sector, two major factors influencing the design were:

- (a) The lack of an adequate, generally accepted operational definition of decision.
- (b) The absence of a comprehensive descriptive model of teachers' decision making.

These factors suggested that the intention of the study could be served by a design which focused upon:

- (a) The development of an operational definition of decision.
- (b) The development of theoretical concepts and a descriptive model of the practice of practitioner-teachers' decision making grounded in the substantive area of investigation.

The design adopted to achieve these objectives followed in the tradition of grounded theory and employed protocols for data collection and analyses which are well established in social science research. Specifically it involved the use of constant comparative analysis which employs an iterated interplay between the collection and analysis of data. The inductive approach of grounded theory also places emphasis upon "theory development", in contrast to other approaches which, for example attempt to verify or validate existing hypotheses or theories.

Adopting this approach ensured that the findings of the study are grounded in the substantive area being investigated, in this case the professional lives of F.E. teachers employed in the Scottish Further Education sector.

The status of the findings of this study are therefore, those of a substantive theory, processed through recurring developmental stages: each newly identified discovery, concept, relationship or category was verified by constant comparative analysis, in the process helping to determine the direction of the next stages of the study.

The methods of data collection used in this study are typical of those generally employed

in qualitative research, in fields such as decision making and included semi-structured and unstructured interviews, participant observation, and stimulated recall. Also where appropriate, collection and analysis of quantitative data were carried out by the design and administration of a survey questionnaire.

## **(ii) Summary of Findings**

A fundamental, general thesis of the study is that teachers are agents whose decisions and consequent actions influence, and are influenced by their human and physical environment in particular ways. This reciprocal relationship is illustrated and confirmed by the practitioner model of teachers' decision making (see Section 11); here after referred to as the Practitioner Model which effectively answers the research question about the feasibility of construction of such a model in a positive fashion. In doing so, it is clear that this culminating outcome of the study also contributes towards the stated intention of developing understanding of decision making in a particular context, both in its completed form and through the earlier findings which are its component parts.

As explained in the text, decision making should be regarded as a dynamic mental process which is essentially unobservable by the researcher and often impossible for the subject decision maker to articulate; features of the decision making process, though not its action outcomes, must be a matter of inference based upon analysis of available data. In this study such data consist of the voices of the teacher-subjects in dialogue, recording and transcript, as well as of sources in the literature. Comparative analysis shows the model to be not inconsistent with other models, both descriptive and prescriptive, of decision making in terms of its major features which are summarised below; this congruence with sources in the literature is independent of variation between studies in the definition adopted by authors of the decision concept.

The Practitioner model is a synthesis of three important concepts which were themselves subsidiary findings which were developed as the earlier stages of the study progressed, and whose development is summarised below, following the outline of the characteristic features of the model.

## **Characteristic features of the Practitioner Model**

- (1) Decision making is represented as a dynamic, discontinuous, non-linear process, following a complex system of pathways.
- (2) The content and organisation of the Internal Context is illustrated by a web of inter-related types of decisions.
- (3) Initial processing of incoming stimuli may lead to:
  - (a) new decisions
  - (b) tentative decisions
  - (c) indecision
  - (d) further stimulus.
- (4) The pathways to (3) above may be traversed repeatedly.
- (5) Types A, B, C decisions precede type D decisions (intentions to act).
- (6) Type D decisions may not necessarily become operationalised.
- (7) When operationalised, type D decisions result in interaction with the external environment.
- (8) The outcomes of (7) are stored in the Internal Context.
- (9) Review by the decision maker of (8) initiates the decision making process.

Other models of decision making found within the literature can be superimposed on the above model, without contradiction, and independently from how decision is defined by the authors of these models.

There are a number of features of the model which are unique and rely upon earlier



findings in the study. These features are outlined below, followed by the summary of the earlier findings.

### **Component Concepts of the Practitioner Model**

Three key concepts, which became essential components of the model, but may be viewed as important innovations in their own right, emerged in the course of the research: a new definition of decision; a structure of organising categories of teachers' decisions; a new typology of decisions.

#### **Defining Decision**

The operational definition adopted in the study is:

“ A decision consists of the removal of doubt or uncertainty from one's mind about accepting a proposition in circumstances where an alternative proposition could be suggested”.

It evolved from a wide-ranging literature search in the fields of decision and decision making, and, in particular of teachers' decision making. Existing definitions varied widely, and tended often to be *a priori* in nature, a serious limitation in terms of practical investigation of decision making, which, as discussed in the text, is a complex process not amenable in many of its aspects to recording and analysis on the bases of observation.

The operational definition, essential to the process of data analysis in the study in facilitating the distinction between decision statements and not, was tested throughout the study against teachers' statements and reports, as well as against prior definitions adopted in other parallel studies in the literature, and was found to be appropriate. It was therefore applied to analyse primary data in the form of statements, and in the process of inference by the researcher which made possible the identification and, latterly, categorisation of decisions outwith the awareness of subjects. In this way, the limitations

of, firstly, the inability of responders to articulate all decisions made and secondly, reliance upon restricted *a priori* assumptions about the nature and genesis of decisions were avoided.

### **Organising Categories**

The structure of organising categories evolved from those statements which, by the application of the operational definition, were classed as decisions. The protocols of analysis used to distinguish categories were those proposed by Lofland and Lofland (1984).

Through constant comparative analysis, the number of categories was finally extended to twelve and built into the Practitioner Model as a central feature of the teacher's Internal Context. The twelve categories are: teachers' desires; self identity; students' needs; students' attributes; teaching strategies; lesson content; resources; activities; curriculum; time; managers and colleagues.

These categories were shown to be capable of accommodating all of the decisions made by the subjects of the study and identified from their reports, and their content comprises the agenda of discourse about their professional lives broadly defined when talking about their professional lives.

The role taken by the researcher at this stage, was to categorise decision statements identified as such, and deliberately to refrain from attempting to direct or expand the agenda: subjects were invited and encouraged throughout, by means of oral and written open-ended questions, to add to the agenda as they wished.

### **Typology of Decisions**

The data, in the form of identified and categorised decision statements, which were derived from the transcripts of Phase 1 interviews were subjected to further analysis in an attempt to detect characteristic differences between decisions, in terms of their purpose

or function for the decision maker. It was possible in terms of function, to distinguish 3 types of decision which serve the purpose of categorising, interpreting and evaluating; these were labelled Types A, B and C respectively, and formed the initial basis of a new typology of decisions.

As further data, both qualitative and quantitative was collected and processed in subsequent phases, this tentative typology was itself tested through constant comparative analysis, and extended and refined as a consequence.

### **(iii) Potential Utility of Study Findings**

In the introduction section, the intentions of the study were expressed in terms of enhanced understanding of practitioners' decision making, and, if achieved, the potential utility of its outcomes to certain interested groups.

- (1) The most immediate and numerous group is made up of those who were the subjects of the study itself, i.e. teacher practitioners in the Further Education sector. For such practitioners, both the theoretical and the content-related findings may provide useful insights into their own decision making processes and the wide range of factors involved, reflected in the range of organising categories and their sub-categories. In particular, relatively inexperienced teachers may benefit from access to the accumulated views and opinions of a broad spectrum of more experienced colleagues.

The theoretical findings may also provide useful insights into personal decision making processes for teacher practitioners in other sectors of education; while the context-related perceptions and interpretations of the subjects of the study may provide a basis of comparison with perceptions and interpretations derived from within their own context.

- (2) A second group of potential beneficiaries comprises managers, administrators and policy makers within the education system. For this group the more

theoretical outcomes may be of interest in terms of general insights into the nature of decision making, and contribute to reviews and evaluations of their own decision making practices. The substantive data provide, particularly in the Scottish context, evidence of impact of the decisions made by members of this group. The interpretations and evaluations of classroom teachers may constitute a kind of “upward appraisal” and so provide useful feedback to group members in respect of a range of important issues, including curricular matters, and the resourcing and management of educational establishments in their purview.

- (3) A third group, distinct from (1) and (2) above, though performing many of the same functions as part of their professional activities, are teacher educators, who may benefit from the study’s promotion of the importance of decision making in the spectrum of teacher activities. The study provides a rationale, together with theoretical concepts and models, for teacher educators to incorporate explicitly aspects of decision making in the curricula or course descriptors of teacher education courses.
- (4) A further group to whom the study may offer potential benefits are those researchers whose interests are related to the field of individual decision making. Although the quantitative data are specific to the substantive area of investigation, other aspects of the study are considered by the researcher to be potentially generalisable. Other researchers may, therefore, wish to utilise the findings of the study within their own studies to whatever extent they consider appropriate.

If the findings of the study can successfully be incorporated into other substantive areas of individual decision making, then it may have usefully contributed towards the eventual development of ‘formal’ or ‘general’ theory of individual decision making.

#### **(iv) Limitations of the Study**

To the extent that the understanding of the substance and process of decision making has,

in fact, been enhanced as a result of the study's outcomes, it can reasonably be claimed that progress towards the achievement of its stated intention has been made. The very nature of the study and its subject matter clearly precludes any completeness or finality in terms of its findings and their contributions to knowledge and understanding in the field: such a project cannot be expected to make more than an incremental step in the process of research.

#### **(v) Issues Outwith the Scope of the study**

Two major groups of issues which might be expected to become relevant in the course of an enquiry of this topic and context proved, for rather different reasons to be beyond its present scope, although they may, if separately addressed, in appropriate contexts and by suitable methodologies provide fruitful areas for future research.

Firstly, issues related to the degree of truth, accuracy, quality and rationality, involved in subjects' discourse could not be pursued, given the agenda of the present study: the purpose of the employment of the interview protocol was to yield uncensored, voluntary data in the form of verbatim recordings and transcripts of the subjects' statements, the source of the substance, or content. of teachers' decisions, as expressed in identified decision statements. To address such value issues, it would be necessary to design specific research projects and protocols, perhaps particularly incorporating a post-modernist perspective.

Secondly, issues which undoubtedly are frequently important aspects of educational discourse, of central or peripheral nature, were not able to be pursued to any substantial extent, even if time and resources had permitted, since they did not appear on the agenda of the subjects of the study. This was true despite the successful effort of the researcher to encourage all respondents at all times to take control of the scope of the agenda, and to avoid dictating aspects of it or closing it down himself.

Such issues surround, for example, gender, nationality, race, religion, social class and status and discrimination and prejudice associated with them. The deliberate introduction

into the dialogue of aspects of these issues would have shifted the nature of the unstated question underlying the interviews from “What decisions do teachers actually make, within their working environment broadly defined?” to “How do teachers’ respond to questions related to issues such as.....?”, closed down the agenda and precluded responses which subjects would otherwise have wished to make.

The open-ended format adopted in the qualitative phases of the study permitted and encouraged the subjects to volunteer a wide range decision-related commentary, which was eventually able to be arranged in the structure of organising categories, effectively those major topics upon which teachers’ concerns were focused.

Many research studies have centred upon issues with such social, political and economic content, and enquiries involving the same subjects, context and methodology as the present study could clearly be designed to address some or all of them.

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Please read the instructions for each section of the questionnaire carefully and complete the questionnaire from your personal point of view.

In completing the questionnaire please tick (✓) the appropriate box (boxes). If you change your mind cancel the (✓) by crossing it out: ✗

**SECTION 1**

Please (✓) the boxes corresponding to the statements with which you agree.

In talking about my job, I refer to myself as a

- Teacher
- Lecturer
- Instructor

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

My job is to:

- Pass on my knowledge to my students
- Pass on information to my students
- Prepare my students for a job
- Give students skills
- Build students' confidence
- Encourage students to be responsible

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

Aspects of my job:

- I teach a wide variety of subjects
- I teach a wide variety of students
- My job is subject to a lot of variation
- I learn from my teaching
- Teaching is about being confident
- I like to impress my students
- I like my students to respect me
- Teaching in workshops is easier than teaching in classrooms
- There is too much administration in my job

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

Please (✓) the boxes corresponding to the statements with which you agree. I would describe my job as being:

- Tremendous
- Likeable
- Interesting
- Enjoyable
- Nice
- Comfortable
- Satisfying
- Challenging
- Stressful
- Frustrating
- Like a hobby
- The best job there is

## SECTION 2

If you have experience of NC modules please complete this section by placing a (✓) in the appropriate boxes.

In my opinion the modular system is:

- Flexible
- Good for developing new topics
- Suited to individuals' pace of learning
- Open to everybody
- Better than the previous system
- First class
- Beneficial for lots of people
- Too fragmented

In my opinion the modular system:

- Encourages students to learn and forget
- Discourages students from working hard
- Allows too many resits of assessments
- Involves too much paperwork

In my opinion:

- Some modules have too little content
- Some modules have too much content
- Lecturers should get more guidance in assessing
- Many assessment instruments are poor
- There should be a grading system
- A grading system would motivate students
- Lecturers should have more time for preparation
- Lecturers should have more training related to the system.

### SECTION 3

Please rate the following statements in terms of how important you think they are in your job.

	Extremely important	Very important	Important	Not important
Ensuring students pass their assessments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Helping student in their personal development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Having good relationships with	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
students	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
colleagues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
senior staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### SECTION 4

Please rate the following statements in terms of what you think of your college facilities (by placing a (✓) the appropriate boxes.

	Excellent	Good	Adequate	Poor
Library	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Staff refectory	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Staff work rooms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Teaching areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Facilities for the disabled	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Teaching resources.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### SECTION 5

Please (✓)the appropriate boxes in terms of how you would describe your students.

	All	Most	Some	None
I would describe my students as:				
Well behaved	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Interested in learning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Capable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mature (in age)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mature (in attitude)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Skilled	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Highly motivated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Responsible	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Confident	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Able	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sultry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**SECTION 6 Relationships at work**

Please (✓) the appropriate boxes to show on a rating scale of 1 to 4 the extent to which you agree/disagree with the following statements.

The relationship I have with my students can be described as:

- Co-operative
- Enjoyable
- Close
- Supportive
- Sharing
- Friendly
- Vibrant
- Interesting
- Good
- Pleasant
- Motivating

Strongly Agree	Agree	Disagree	Strongly Disagree

The relationship I have with my colleagues can be described as:

- Co-operative
- Enjoyable
- Close
- Supportive
- Sharing
- Friendly
- Vibrant
- Interesting
- Good
- Pleasant
- Motivating

Strongly Agree	Agree	Disagree	Strongly Disagree

The relationship I have with my SL, section head, HOD can be described as:

- Co-operative
- Enjoyable
- Close
- Supportive
- Sharing
- Friendly
- Vibrant
- Interesting
- Good
- Pleasant
- Motivating

Strongly Agree	Agree	Disagree	Strongly Disagree

**SECTION 7 Opinion of Management**

Please (✓) the appropriate boxes to show on a rating scale of 1 to 4 the extent to which you agree/disagree with the following statements.

In my opinion the SL, section Heads, HODSs in my department are:

- Approachable
- Efficient
- Receptive to ideas
- Communicative
- Helpful
- Fair
- Informed
- Democratic
- Confused
- Good listeners
- Interested in their staff
- Critical of staff
- Informed about their staff
- Good at giving guidance

Strongly Agree	Agree	Disagree	Strongly Disagree

In my opinion the senior managers in my college are:

- Approachable
- Efficient
- Receptive to ideas
- Communicative
- Helpful
- Fair
- Informed
- Democratic
- Confused
- Good listeners
- Interested in their staff
- Critical of staff
- Informed about their staff
- Good at giving guidance

Strongly Agree	Agree	Disagree	Strongly Disagree

**SECTION 8 Job Satisfaction**

Please rate the following statements by placing a circle around the appropriate number on the scale 0 (low) - 6 (high) in terms of how much satisfaction you derive from them.

		Degree of Satisfaction							
	Low	0	1	2	3	4	5	6	High
Passing knowledge and skills on to students		0	1	2	3	4	5	6	
Developing relationships with students		0	1	2	3	4	5	6	
Building self-esteem and confidence of students		0	1	2	3	4	5	6	
Seeing students pass their assessments		0	1	2	3	4	5	6	

**Please answer the following questions briefly:**

- 1. How would you describe your job?**
- 2. What gives you the greatest satisfaction in your job?**
- 3. What do you resent most about your job?**
- 4. What aspects of your job would you like to change?**
- 5. What do you think is good about the modular system?**
- 6. What do you think is poor about the modular system?**
- 7. What aspect of the modular system would you like to see changed?**
- 8. What do you think of your college facilities?**
- 9. How would you describe your students?**
- 10. How would you describe your relationship with your students?**



11. How would you describe your relationship with your colleagues?
12. How would you describe your relationship with your senior staff (SL, section head, HOD)?
13. How would you describe your relationship with your college management?
14. How well do you think your college is managed?
15. What do you think was the most worthwhile part of the TQ(FE) course?
16. What do you think was the least worthwhile part of the TQ(FE) course?
17. What topics do you think are most relevant to your future training?
18. Who could best provide such training for you?
19. What else would you like to say about your job in FE?
20. What else would you like to say about the FE system?

Please provide the following information which will be helpful in the analysis of the data.

Please (✓) the appropriate boxes.

MALE

FEMALE

AGE

Under 30 years

31 - 40 years

41 - over

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

Please state:

Present QUALIFICATIONS \_\_\_\_\_

Any qualification you are working towards \_\_\_\_\_

Subject specialism \_\_\_\_\_

Please state, in years, the youngest, oldest and approximate average age of the students, you have taught within the last year.

Youngest age

Oldest age

Average age

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

Please state (in years) experience of work outwith FE teaching

experience of Part time FE teaching

experience of Full time FE teaching

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

Thank you very much for your participation  
in this survey

## **Teachers' decision making: planning and review of teaching and learning situations**

### **Introduction**

This appendix draws together key extracts from teachers' discourses about the planning and evaluation of their lessons (pre-active and post-active phases of teaching), together with the researcher's commentary upon them. The subjects concerned are those whose interviews were recorded, transcribed and analysed as case studies 2-9, while case study 1 was incorporated as an exemplar in the body of the text (see Section 9)

The main purpose of the careful reading and analysis of these cases was to develop a series of "internal context" diagrams, in the same way as exemplified by Case Study 1, which were collectively to be incorporated into a diagram summarising the planning and review decisions of all 9 respondents (see Diagram of Internal context Figure 7, p.236)

For an anonymised list of the subjects and their relevant characteristics, see Section 7 page 84.

### **Case study 2 : Roger (Phase I interviewee number 6) Partition construction.**

Roger explained how he decided what the content of the lesson was to be:

"I was actually governed by the time factor of what stage they (the students) are at in certain modules. This morning they are going to start a new subject which they might not be so familiar with unless they have been on a building site and they have done partitions".

He then explained:

“What we teach is governed by the modular descriptors. We’ve got to follow the guidelines there, but as well as doing that there are other parts of partitions that they need to know. For instance, difference types of partitions, where they would be used and when they would be used, that sort of thing, which doesn’t really come into the descriptor. So I decided well, if I add all these bits in they’re getting a good all round knowledge”.

Roger rationalised extending the content indicated by the module descriptor by saying:

“I feel the students should be aware of different types of partitions, and again they should know the relevant terminology which is going to be handy for them when they go back to work because if their boss asks them to do something they will understand the terminology related to it, so they are going to have all that terminology”.

Roger described what he intended to do during the lesson by saying:

“Well, I’ll start off by introducing it - it’s about partitions - and asking them questions - if anyone knows what a partition is. Often you get someone who has worked on a site who knows what a partition is, or he gives you a rough idea what it is, then I go on to different types of partitions and explain where they are used and that kind of thing. I have a number of models which I’ve found a great advantage. You can hold the model up and show them all the parts and I also have a number of slides which helps me in explaining things. I have a rough idea what sort of questions they might ask me because I’ve been here a long time and I’ve done these partitions a lot”.

Having outlined his intentions (Type D decisions) with regard to the methods he would use to deliver the lesson. Roger concluded:

“At the end of the lesson I feel the students will be aware of different types of partitions and, again, they’ll know all the relative terminology”.

### **Case Study 3 : Raymond (Phase I interviewee number 19) Electrical Safety.**

Raymond explained that the majority of his work was related to the teaching of gas safety, but that the lesson he was about to teach was concerned with electrical safety. He had introduced this topic to the students in a one-and-a half hour lesson during the previous week, their first week in college. The students were mainly new apprentices, but one was a mature student in his mid-forties. Raymond described the class as being “A funny mix, you know, but the mature guy blends in really well”.

In planning the lesson, Raymond’s assumption was that the students would not know anything about electrical safety. In outlining his intentions (Type D decisions) Raymond explained:

“ I want to make it interesting, so I put in a mixture of group discussion, or pair discussion, I want to get some interaction going. We’ll have a question and answer session going just to consolidate anything that we have done up to then, and we will finish it off with a wee practical exercise if we have time. They will be doing a wee bit of written work, a wee bit of discussion and they will end up by doing something with their hands”.

The students’ discussions would be based on a series of student-centred worksheets which Raymond had prepared based upon his interpretation of the requirements of the module descriptor; the practical exercise which he intended the students to undertake would be the wiring and checking of a 13 amp plug.

This practical exercise, Raymond explained, was included in his plan (as a tentative decision) to be implemented only if there was time available in the lesson to conduct it:

“I know I’ve got too much in my lesson plan, but I think the only reason I’ve put too much in was simply because if we do get through the other work quickly there is always something there to fall back on. As I said before, I’ve only had this group of students previously for one-and-a half hours, so I don’t know much about them or how quickly they will get through the material. I don’t know what level of knowledge they have, so I have found the timing of the lesson difficult”.

Raymond explained that he found lesson planning quite difficult:

“I use a wee bit of empathy, you know, put myself in their place - how would I like to be taught if I was in the student’s situation - but it’s quite hard to try and put yourself in their situation, I just do it to the best of my ability. I try to make the lesson interesting and have as much activity for the students as possible. I try to get the activities as close to the work situation as I can”.

Raymond explained that the content of the worksheets, the student activities which he had planned, and the practical task of wiring up a 13 amp plug were based on the requirements of the module descriptor. “I have only been instructed to teach electrical safety on one specific outcome and it’s the standard and performance of this outcome which students will have to achieve”.

#### **Case Study 4 : Bill (Phase I interviewee number 7) Colour Mixing.**

Bill explained that his lesson was concerned with teaching “the colour circle”, and that his students were apprentices who attended the college on a block release basis of 4 weeks’ duration interspersed with work-based experiences.

He had read the module descriptor to remind himself of what the students needed to do to satisfy the assessment requirements: the descriptor called for students to be able to mix paints to match a given sample. Bill considered that to be able to do so required a considerable amount of practical experience, and an appreciation of the theory and technical terminology associated with colour mixing and matching.

As this was a new subject to the students of which they had very little experience, Bill explained:

“ My intention is to explain to them what they have to do, which is to produce a colour chart which involves mixing primary colours to produce secondary colours, and mixing secondary colours to produce tertiary colours. They can then keep this chart for reference because it is related to the next three modules in which they have to match colours and produce colour schemes which may involve non-standard colours. So, what I want to show them this morning is the colours that can be produced by using the primary colours and how, by adding black and white to these, you can produce a full range of colours”.

The morning’s lesson would take place in the classroom:

“I will let them experiment with colours using poster colours as opposed to oil paints because they learn a lot easier if they actually do it themselves. I’ll keep it as simple as possible and let them actually do it, as opposed to telling them about it”.

Bill explained that he wanted the students to use poster colours because “There is no way I would let them loose with oil paints in the classroom because I don’t know their standard or ability”.

### **Case Study 5 : Andrew (Phase I interviewee number 15) HNC Construction Management.**

Andrew explained that the class he was about to teach consisted of students who last year had completed a National Certificate in Building Construction and were now going on to take a Higher National Certificate:

“Although we have never really had any definitions from Scotvec or anywhere else, my interpretation is that the National Certificate is related to the acquisition

of technical knowledge about how elements of buildings are put together, while the Higher National Certificate is concerned with encouraging students to think about Construction as a problem solving activity”.

Last year he had a group of HNC students who did not appear to appreciate this difference; One student had commented “Oh, I thought this was going to be HNC, this is all the stuff we’ve had in the National Certificate”. Because Andrew felt that this comment was prompted by the fact that he had started last year’s course with a revision of National Certificate content, this year he wanted to impress upon the students that, although the subject area might involve the same technical information, they could not simply assume that all construction problems could be solved by reference to a text book.

“What I am trying to impress on them is that, although it may be the same technical information that they are dealing with, I want them to approach the subject and think about it in a different way, so this year I started with the assumption that they know a lot of information. The students themselves often look very blank when you question them about it, but when you probe a bit further or get them into a “brainstorming” session, what they learnt the previous year starts to come back to them”.

Andrew was very confident about his subject expertise in that he had some 20 years’ experience in a range of responsible posts within the construction industry, and had been a project manager on a number of major construction sites, however, this was only his third year as a teacher, his approach to teaching had changed as a consequence of discussing his experiences and feedback from students with his colleagues: his approach to teaching now was, to cut back on “lecturing and expositions” and get students more involved in the discussions and group activities with which he now felt more comfortable and to which the students responded with more interest and enthusiasm.

“So the topic we are going to be talking about today is concentrating, not so much on technical information on building, but is on comparing methods of



construction across a wide spectrum. I want them to get into the way of thinking not simple about how to sketch, or draw, parts of a building, but how to get a concept, a design idea, first of all on to paper, and from there on to the site. I want to focus on the process of building itself, not the finished construction”.

In this lesson, rather than revise the technical content of the National Certificate as he had previously done, he would start by assuming that the students had “a fair bit of knowledge”:

“I will try and sort of probe and find out if there are any major weaknesses in the group as a whole. I will do this by getting them to work in groups and getting them to come up with answers. What I’ll be doing is getting them to compare, principally, steel-framed buildings with reinforced concrete buildings. I want them to identify characteristics and advantages and disadvantages in these two types of construction. I hope they’ll be able to understand that the same approach to to-day’s exercises can be used in a comparison between other forms of construction. For instance, brick and timber frames. In fact, the approach can be applied to any form of construction you want to consider. As well as the technical characteristics, I want them to consider the whole process of construction, from design to who you are going to get to build it, the conditions on site and right through to after things are completed - what sort of problems are liable to arise in terms of maintenance for example, and I will even touch eventually upon the problems of demolition”.

Andrew explained that his students tended to have quite a lot of experience in the building industry; although limited to one aspect of the industry, he wanted to build upon individual students’ experience and to help them to develop an appreciation of the whole process of building from start to finish: “I will be introducing them to the idea that buildings are put up with an expected economic lifespan and, at the end of that, there is no reason at all why you shouldn’t tear them down and start again”. Having rationalised his approach to the lesson, he outlined his intentions: “

“So the way I am going to approach it is to introduce the basic phases of design, preconstruction, actual on-site work and, of course, completion and maintenance. I’ll take each of these phases and give them a quick rundown for the sort of things they should consider in each phase and then get them to work through an exercise in groups. They will be drawing a comparison of the advantages and disadvantages between a steel frame and a reinforced concrete framed structure. So that they have to think in terms of how the thing would be constructed, and what sort of problems are liable to crop during the process. I’ve found a good way of introducing the problem to them is to use this comparative method. I ask them, for instance, to assume they were going to put up a six-storey building in Edinburgh, and compare this with constructing the same building in, say, Orkney or Shetland. It gets them thinking in fresh terms that this stuff just does not appear from some factory down the road, that somehow you’ve got to consider where the building is to be located and what the site conditions are and how these may affect design and construction considerations”.

#### **Case Study 6 : Fred (Phase I interviewee number 16) Heating Systems.**

Fred was about to teach a group of HNC students, all of whom were in their mid to late 20’s and were in full time employment within the construction industry. Fred described the planning of the lesson:

“Well, I’m familiar with the descriptors and I have the expertise and information required to satisfy the descriptors. I’ve actually taught this subject a number of times before and over the years my confidence in teaching generally has improved and grown so that I find that I can now respond better to the class situation and not have to concentrate too much on the technical content. This means I can take a more open approach and respond to what students ask or want to talk about”.

He explained that last week he had taught the same group and that the content of his lesson had related to drainage systems. In the course of discussion, he had realised that one of the students had “worked quite a lot with the testing of drainage systems and so on”. He asked him to come to the front of the class and talk to the other students about his experience of using the testing procedures on drainage systems required by the Building Regulations to satisfy Health and Safety regulations and to ensure that systems satisfied the “code of practice” adopted by the industry. He continued:

“Being confident in teaching the information has allowed me to try out such new methods. When I first taught I was a person who stood at the front of the class and just told them what it was all about. The students would just sit quietly and not say anything - that might still be the best way to teach, I don’t know, but that didn’t satisfy me. I think the students must certainly have the technical knowledge and expertise required of them, but they should also be able to communicate it and talk about it. I think that is the area that I want to develop”.

Fred went on to explain that the problems which he had encountered in his career when working as a site agent in the building industry were not purely technical problems, but were more often related to problems of communication.

He concluded “I think communications are important”. The change in his approach to teaching from what could be described as a teacher-centred “subject” perspective to his present approach, which could be described as a student-centred “person” perspective, had developed as a result of his dissatisfaction at the way in which students had reacted to his earlier teaching. It was only after attending a teacher training course at Jordanhill that he became aware of how his approach to teaching might be changed: “The courses at Jordanhill have changed my thinking about teaching, and what I read changes my ideas about what I’m aiming for. What I’m aiming for are individuals who have technical expertise and the ability to communicate, so that my approach to teaching is aimed at that”.

When talking about the content of the lesson, Fred commented:

“Content depends upon the students in terms of how much detail should be there. As far as my approach to teaching is concerned, I teach the principles, that is what is important, then they can put on as much detail as they want. We can apply the principles to many situations, so my approach to this lesson will be to ask a number of questions and get students to respond from their practical experiences and draw out from this the principles which apply in general”.

### **Case Study 7 : Gordon (Phase I interviewee number 22) Building Services**

Gordon’s class consisted of 12 school leavers who were undertaking a course on “Building Services”. He explained:

“The course is an introduction to building services, and it’s a case of you’ve got to give people a general insight into what building services means with regard to what you use, namely, water, drainage, electrical, communications and ventilation and such like. Up until the holiday week there, I had gone through the water main material - taking it from the reservoir right through and doing things like that, and I decided that I would now start a fresh topic. So, today’s lesson is about electricity supply, it’s a general insight into where electricity comes from and how it gets to the house, and how you know you can use it. There’s no point in going on at great length about generators because, when you’re doing electrical work on a building, you’re not really involved in that. It’s like when you do water supply - and what I did there was I gave them a handout sheet about reservoirs and said “this is your reservoir and this is how the water comes down the purification works and eventually goes right through the pipes into the ground, but in some terms people that are building plumbing don’t necessarily need to know everything, but it is handy if you know a wee bit about it, so I thought the electrical side should be the same”.

The above extract may serve to demonstrate the fact that some F.E. teachers, though experienced and technically qualified in their subject area, are not fluent in articulating their thought processes.

Gordon explained the planning of the lesson:

“Right, I just put it together and tried to make it - because of the type of group it is - they get very easily bored and you’ve got to try and move on and give them a wee bit of ground about something and then say ‘Do you understand?’ and then go on to something a wee bit different and take them through that stage and then ask them a couple of different questions, so really it was just how I thought I could put it together because it is non-modular, you don’t have a recognised route of the assessment to be made on it, so it is just a case of picking things that I thought were relevant such as where does the electricity come from, and how do you get it to the house, and what would you look for immediately inside the house, and how do you use it? Which is just a kind of general feedback format. Well, to give these boys handout sheets, I didn’t think it could be the same, didn’t have the ability to understand what was being put over. Other classes you use these boards that are made up to demonstrate how electricity works, but the level they are at you want to show them a kind of colourful picture on the wall and say ‘this is what it does and this is how it works’”.

Referring to the diagram on the OHP Gordon said:

“I didn’t try and cram too much on to it and I felt that, you know, to hand out a black and white copy, I know we’ve got them, but to hand out black and white copy to somebody and say ‘right, what colour is that supposed to be?’, you know, they wouldn’t understand it and I felt that they would perhaps understand the difference between, like, in the original generation of it, red means hot and blue means cold, so they see the idea of heating and cooling, albeit, as I said, it was diagrammatic rather than technical”.

Asked if he had any other ideas about how to teach the lesson, Gordon said:

“One of the other groups in second year I have got to wire plugs, so I could have brought in a dozen plugs with the covers off them and shown them a small plug, or I could have brought in a fuse box and shown them a fuse box, but I thought to myself ‘then you’re going into more than you need to go in to because if someone says ‘what happens if you take off the cover’ and so on - so I thought that for what I wanted to put over I thought the OHP was better”.

When asked if he had considered using any of the video material from the college library, Gordon replied:

“We’ve got one or two videos upstairs and I have used, not recently, I have used a couple in the past and I felt that to bring the video and get the television set up and all that, you end up showing them not that type of information, it takes them off in one direction only and I felt it was into a - you know - it doesn’t tell them what I was wanting to tell them to my knowledge, plus it means that they are sitting down there for maybe half-an-hour looking at that and, short of stopping and starting the video, and re-playing and doing another bit, they would say ‘Sir, what did that mean, there’ and you are stopping and starting it continuously, whereas the content of the lesson was extensive with regard to the amount of material that was in it, but I felt it was enough to keep these people occupied for the time I thought was needed to be going in the class”.

### **Case Study 8 : Jim (Phase I interviewee number 17) Signwork layouts**

Jim explained his lesson planning process:

“What I normally do is look at the descriptor and look at the outcome that they’re doing at the present time and pick a bit out of the descriptor and either do that bit in the descriptor, or split it into parts again and try to work my lesson around it”.

For courses based on the National Curriculum:

**“Personally, I like to work from packages for my modules. I try and make up packages with all the relevant handouts in it. I look at that part of the modular descriptor which I am going to teach and then try and pick out the relevant parts from the package that I am going to use and work my lesson around that”.**

**These packages, some designed by himself others by his colleagues, contained the materials required to cover all of the modules taught within the department and were available for any member of the department to use in whatever way they decided. Jim explained: “I might use some material for one lesson, and then use it again in another lesson. It’s got to relate to what I am doing”. What he meant by this was that, in deciding the content of a lesson, he first reviewed what content students had covered and what learning outcomes they had achieved, and then selected part of the module which seemed to follow logically from “where they have finished up in the last lesson”.**

**All his students had completed a National Certificate course in sign writing in which the emphasis was on acquiring skills in “letter construction”, proficiency in which requires a considerable amount of practice. On the National Certificate course they had covered simple layout schemes on flat surfaces such as shop fronts and fascias. This particular Higher National course focused upon “design and layout of lettering and art work for commercial vehicles”. Students were required to acquire an appreciation of the principles of design and layout which could be applied to a range of vehicles of varying shapes and sizes. In designing such layouts, account had to be taken of the size and shapes of panels which made up the bodywork of the vehicle. Jim explained:**

**“During the last few weeks the students have completed work on natural layout, the basic guidelines to a good layout, and they seem to have grasped that. Last week’s lesson was on how to split the side of the vehicle up, as far as the lettering layout goes. It can either be on one full area or split into panels, and this week I want them to go back to natural layouts again, so as to consolidate this learning. So, I start today’s lesson with revising what they understand by a**

natural layout to make sure they still remember what the guidelines are and so on. Once I've done that re-introduction part, then I'm going to ask them to try and incorporate some format panels. You know, taking panels and then putting the lettering into it, rather than just using the background colours of the van solely for lettering. So, I just want to try and introduce some format panels and maybe a wee bit of art work, just to make the natural layout a wee bit more interesting. It's a very basic layout, there's nothing awfully exciting in it, I'm just trying to introduce a wee bit more variety".

From his resource packages, Jim had selected various drawings of vehicles, showing the outline of the vehicle's panels. From these the students would be required to enlarge the drawings to scale, given a handout which included name, address, telephone number and logo of the company for which the panels were to be designed. Students would then be required to design the lettering and layout of the panels and would be encouraged to share ideas and criticise each other's work. The intention of this lesson was to enable students to produce a layout which satisfied the principles and guidelines of good design. In succeeding lessons, the students would be required to execute the designs and, in so doing, would gain further practice in the skills of lettering, masking, spray painting and the use of air brush techniques.

Jim described his students as keen and highly motivated, with skills ranging from "fairly good" to "one or two who are really good" and added that "some of them seem to have a natural flair for this kind of work but all of them are very interested and they all work hard".

### **Case Study 9 : Alan (Phase I interviewee number 24) Higher National Certificate in Computing**

Alan explained that the starting point for the planning of his lesson was to look at the Higher National unit descriptor in order to find out what the students were required to do. Having read the descriptor, he came to the conclusion that it was "pretty vague - it mentions understanding systems, for systems I can then read disc operating systems as



well as the software systems because I think that it very important. You can tell students who know how the operating systems work because they are far more confident". He emphasised this by saying:

"I have got two targets that I want to reach this morning. I want them to be able to understand why we have a disc operating system rather than just going straight into the software and using the software. I want them to be able to understand the link between the software and the disc operating system and that will provide the strengthening stones to go into the software without them being in the software not knowing what is happening. So these are the two targets. I want them to understand the idea of the disc operating system and how you can manage computer systems rather than them managing you. If they make that connection between the disc operating system and the software, it will make them more comfortable with the software because they will actually know what is happening. They will know that if they save a file, where it is saved to and will know how to find it because most students tend to say "I've saved a file, Mr. Jones, where is it?" and then I say "Well, where did you save it to?". 'Sir, I just hit 'enter' when it said save', so they don't even know what they've called it, they don't know what the file name is, they don't even know whether they've saved it to the hard disc or floppy disc, so when I ask them to retrieve it, how can they retrieve it if they don't even know where it is on".

Alan then stated that he was never taught the relationship between the disc operating system and software packages when he, himself, was a student, but considered that such understanding was essential if students were to be expected to produce documents unsupervised by the end of their course. He explained "You've got to know how to copy documents on to the floppy disc and you've got to know how to call it up. If you don't know that then the whole system is useless, you're just creating files and saving them and then hoping that you can find them again".

Alan described the process of planning the lesson as follows:

“Because I wasn’t taught about this at college, it was something I had to learn for myself, so I looked back and said to myself ‘Well, how did I learn it?, What were the connections I made?’, and that is basically what I will be doing this morning, I will be going over my own learning process and breaking it down. When I was a student, I picked it up in wee bits and then once I picked up the wee bits, I started to read about it and tried to find out more about it, but I don’t think that it the best way to learn it. I don’t think you can pick up a book on it and understand it, it is better if someone explains it and demonstrates, then you go away and try it. The best thing to do is to make mistakes and then when you predict that something should happen and it doesn’t happen, ask yourself why did you make that prediction, what did you do that made you say that that would happen? - and that was how I worked through it myself”.

He did not expect the students would have grasped all of what was happening by the end of the lesson:

“if you keep dripping away at them and you keep explaining to them what is happening then I think, at one point, they’re going to make the connection quicker than if they had just plodded on aimlessly. I know from experience they don’t pick it up until a couple of weeks later, until they get used to the computer and then the barriers come down and they start to feel a wee bit more relaxed and you can see them lighting up ‘Ah, I know what is happening now’ and suddenly they are off”.

Alan outlined the methods he intended to use:

“They watch me, I start looking for a file, it mesmerises them because I am talking to them and looking at the screen. I know exactly where I am in the environment, I’m not lost and I’m hitting the keys fairly fast. That is the stage they should get to once they actually know how it works. They should get to that stage very, very quickly. They sometimes find it daunting, but really, when you know it, it’s not daunting, it’s like everything else. If the lesson goes the

way I anticipate they will be able to save a file within the software that they are using to a specified directory on a floppy disc, so that they know that that file exists within a directory on their floppy disc, and if they want to give it to somebody else or call it back, they know how to call it back”.

After a short hesitation, Alan went on to say:

“ Even if they don’t - if they manage to do that by being prompted, I will be quite happy this morning. Maybe in a couple of weeks I’ll expect them to be able to do it without really thinking, it is going to become second nature”.

### **Analysis: The inter-relationship of decisions.**

In an attempt to identify the variables which influenced teachers’ decision making and to exemplify the relationships between aspects of lesson planning decisions, each of the case study reports was examined to identify statements which provided evidence of decisions which focused on discrete aspects of lesson planning. These decision statements were recorded in the sequence in which they were reported by teachers, classified according to the typology developed within the study and referenced to other decision statements which appeared to have had some influence on the process. The results of these analytical processes are recorded in summary form for case studies 2-9 (see pages 18-27 below).

## Decision Statements, Typology and Linkages

### Case Study 2.

Decision Statements	Typology	Linked Decision
1. Establish students' progress on course to date.	BH	Students' attributes/
2. Establish students' knowledge of intended lesson content.	InD	Students' attributes.
3. Content is governed by descriptor.	CH	Curriculum
4. I have got to follow guidelines in descriptor.	CH	Content of lesson 3,
5. Students have to know more than what is in descriptor.	CH	Students' needs. 7.
6. I'll add these bits (of content) to descriptor.	+D	Content of lesson 2.3.4.5.6.7.8.9
7. Students will get good all round knowledge.	CF	Students' needs. 5.
8. Students should know relevant terminology	CH	Students' needs. 3.
9. This will be handy for them.	CF	Students' needs. 6.
10. Start lesson with introduction.	+D	Activity.
11. Ask questions.	+D	Strategy.
12. Find out what students know,	+D	Strategy. 2.11.
13. Explain different types of partitions and uses.	+D	Activity. 4.5.6.7.9.
14. Models are advantageous	CH	Resources. 17.
15. Use models and slides.	+D	Strategy. 14. 17,
16. I can anticipate students' questions.	CH	Self-image. 17.

17. I have experience of teaching this subject.	AH	Self-image. 16.
18. Students will be aware of different types of partitions.	CF	Students' needs. 13.
19. Students will know relevant terminology.	CF	Desire. 8.
20. Encourage students' comments.	+D	Strategy. 12.18.19.
21. Respond with expositions.	+D	Strategy. 20.

### Case Study 3.

Decision Statements	Typology	Linked Decision
1. Students blend together.	CH	Students' attributes.
2. Students have no prior knowledge of subject.	CH	Students' attributes.
3. Make lesson interesting.	+D	Teacher's desire.
4. Group discussion.	+D	Activity. 3.
5. Discussion in pairs.	+D	Activity. 3.
6. Encourage interaction.	+D	Strategy. 3.
7. Have question and answer sessions.	+D	Activity. 2.3.
8. Consolidate students' understanding.	+D	Strategy. 2.
9. Students will do some written work.	+D	Activity. 3.
10. Students will do practical exercises.	+D	Activity. 3.
11. Students will wire a 13 amp plug.	+D	Activity. 3.
12. Use student-centred worksheets.	+D	Resources. 4.5.11.
13. These worksheets relate to descriptor requirements.	AH	Curriculum. 12..
14. Prepare extra resources.	+DO	Resources. 15.16.
15. Quickness of students to get through lesson material.	InD	Students' attributes.
16. Timing the lesson is difficult.	CH	Time.
17. Empathise with students.	+D	Desire. 3.

18. Make lesson interesting.	+D	Desire. 3.
19. Have as much activity for students as possible.	+D	Strategy.3.18.4.5.7.10.11.
20. Have activities which are close to work situation	+D	Students' needs. 10.11.
21. Assess students in accordance with modular descriptor	+D	Curriculum. 7.9.11.13.

#### **Case Study 4.**

<b>Decision Statements</b>	<b>Typology</b>	<b>Linked Decision.</b>
1. Read modular descriptor.	+DO	Curriculum.
2. Determine assessment requirements.	BH	Lesson content. 1.
3. Assessment requires considerable practice and experience.	CH	Student's attributes. 2.
4. Assessment requires appreciation of theory and technical terminology.	CH	Lesson content. 2.3.
5. New subject for students.	BH	Students' attributes. 3.
6. Explain to students what they have to do.	+D	Activity. 1.2.12.
7. Show them the colours that can be produced using primary colours, and black and white.	+D	Activity. 5.6.
8. The location of lesson will be the classroom.	+D	Resources.
9. Let students experiment using poster colours.	+D	Activity. 5.
10. Students learn easier if they do it themselves.	CH	Students' needs. 9.
11. Keep lesson as simple as possible.	+D	Strategy. 5.7.
12. Let students experiment.	+D	Strategy. 5.
13. Don't <u>tell</u> them.	-D	Strategy. 10.

- |  |      |                      |
|--|------|----------------------|
| 14. Use poster colours.                            | +D   | Resources. 5.16.     |
| 15. Don't use oil colours.                         | -D   | Resources. 5.16.     |
| 16. I don't know students' standards or abilities. | InD. | Students' attributes |

### Case Study 5.

Decision Statements	Typology	Linked Decision
1. NC is related to the acquisition of technical knowledge.	BH	Curriculum
2. HNC is concerned with encouraging students to think about constructs as a problem solving activity.	BH	Curriculum
3. Some students don't appreciate the difference.	CH	Students' attributes. 1.2.
4. Explain differences between NC and HNC to students.	+DO	Activity. 1.2.3.
5. Students know a lot of information about the topic.	CH	Students' attributes/
6. Through brain-storming this comes back to them.	CH	Activity. 5.
7. I am confident about my subject knowledge.	CH	Self-image.
8. My approach to teaching has changed through feedback from students and colleagues.	CH	Self-image.
9. My approach is to cut back on lecturing and expositions.	BH	Strategy. 7.8.
10. My approach is to move towards getting students more involved in discussions and group activities.	BH	Strategy. 7.8.9.

11. I feel comfortable with this approach.	CH	Self-image. 10.12.
12. Students respond to this approach with more interest and enthusiasm.	CH	Students' attributes.
13. Content of lesson will not concentrate on technical information.	-D	Content. 1.2.15.
14. Content of lesson will concentrate on comparing methods of constructions across a wide spectrum.	+D	Content of lesson. 1.2.13.15.
15. Students should not simple think about how to sketch or draw part of a building.	-D	Students' needs. 13.14.
16. Focus on the process of building.	+D	Strategy. 1.2.14.15.17.18.
17. Do not focus on revision of NC.	-D	Strategy. 1.2. 13.15.
18. Assume students have a fair bit of knowledge.	CH	Students' attributes.16.17.
19. Probe and find out any major weaknesses	+D	Students' attributes.16.17.
20. Get students to work in groups, and provide answers.	+D	Activity. 16.18.19.
21. Get students to compare steel frame buildings with RC buildings.	+D	Activity. 16.18.
22. Encourage students to identify characteristics and advantages and disadvantages of these types of constructions.	+D	Strategy. 21.
23. I hope they'll be able to understand that the approach to to-day's exercises can be used in comparisons between other forms of construction.	+D	Teacher's desire. 2.
24. I want them to consider the <u>whole</u> process of construction.	+D	Students' needs. 2.14.23.
25. I want them to consider what sort of problems are liable to arise in terms of maintenance for example.	+D	Students' needs. 2.23.



26. I will touch upon the problems of demolition.	+D	Content. 2.
27. I will introduce the basic phases of design.	+D	Activity. 2.
28. Give students a rundown of the sort of things they should consider in each phase.	+D	Activity. 26. 27.
29. A good way to introduce the problem is to use the comparative method.	CH	Strategy. 24.25.26.27.28.
30. This method gets students thinking in fresh terms - where the building is located, what are the site conditions - how these affect design and construction considerations.	CH	Students' needs. 2.29.

### **Case Study 6**

<b>Decision Statements</b>	<b>Typology</b>	<b>Linked Decision</b>
1. I am familiar with descriptor.	CH	Curriculum.
2. I have the expertise and information to satisfy the descriptor.	CH	Self-image. 1.
3. I am experienced in teaching this subject.	CH	Self-image. 1.
4. I am now confident in my ability to teach the subject.	CH	Self-image.1.
5. I can now respond better to the class situation.	CH	Self-image. 1.
6. I do not have to concentrate too much on technical content.	CH	Self-image. 1.
7. I can take a more open approach and respond to what students ask or want to talk about.	CH	Strategy. 2.3.4.5.

- |   |     |                           |
|---|-----|---------------------------|
| 8. Being confident in teaching the information has allowed me to try out such new methods.                          | CH  | Self-image. 7.9.          |
| 9. Standing at the front of the class and just talking results in students just sitting quietly and saying nothing. | BH  | Students' attributes.     |
| 10. This might be the best way to teach - I don't know.   | InD | Strategy. 9.              |
| 11. This approach did not satisfy me.   | CH  | Desire. 9.10.             |
| 12. Students should have the technical knowledge and expertise required of them.                                    | CH  | Students' needs.          |
| 13. Students should be able to comment and talk about it (technical knowledge)                                      | CH  | Students' needs.          |
| 14. I think this is the area that I want to develop.  | CH  | Desire. 13.               |
| 15. Communication is important.   | CH  | Students' needs.          |
| 16. Training and reading has changed my ideas about what I am aiming at.  | CH  | Self-image.               |
| 17. The detail of lesson content depends upon the students.   | CH  | Students' needs.          |
| 18. My approach to teaching is to teach 'principles'.   | +D  | Strategy. 19.             |
| 19. The principles are what is important.   | CH  | Students' needs.          |
| 20. Students can then add as much detail as they want.  | CH  | Students' attributes. 19. |
| 21. In the lesson I will ask a number of questions.   | CH  | Strategy.                 |
| 22. I will get students to respond from their practical experiences.  | +D  | Strategy. 21.             |
| 23. I will draw out from this the principles which apply in general   | +D  | Strategy.                 |

## Case Study 7.

Decision Statements	Typology	Linked Decision.
1. I decided I would start a fresh topic.	+D	Lesson content.
2. To-day's lesson is a general insight.	+D	Lesson content.
3. There is no point in going on about generators.	-D	Teacher's desire. 2.
4. When you're doing electrical work on a building you're not really involved in that.	CH	Students' needs. 2. 3.
5. The electrical side should be the same as I taught the water supply.	CH	Strategy.
6. The type of group (students) get easily bored.	CH	Students' attributes.
7. To try and move on and give them a wee bit of ground about something and then say "Do you understand?".	+D	Strategy. 2.4.6.
8. Go on to something a wee bit different.	+DO	Strategy. 6.

## Case study 8

Decision Statements	Typology	Linked Decision
1. Look at the Higher National descriptor	+DO	Curriculum
2. It was pretty vague.	CH	Curriculum
3. For systems., I can then read operating systems	CH	Lesson content. 1.2.
4. I think that iv very important.	CH	Students' needs. 3.

5. You can tell students who know the operating system because they are more confident.	CH	Students' attributes. 4.
6. I have two targets I want to reach this morning.	+D	Teacher's desire. 7.8.9.10.11.12
7. Understand why they have a disc system.	CF	Students' needs.
8 Understand the link between the software and the disc operating system.	CF	Students' needs.
9. Understand the idea of the disc operating system.	CF	Students' needs.
10. (Understand) how you manage complete systems rather than them managing you.	CF	Students' needs.
11. It will make them more comfortable with the software.	CF	Students' needs.
12. They will actually know what is happening.	CF	Students' needs.
13. They will know that if you save a file, where it is saved to, and how to find it.	CF	Students' needs.
14. I will be going over my own learning process and breaking it down.	+D	Strategy.
15. Explain it and demonstrate it.	+D	Activity. 14.
16. Then (students) go away and try it.	+D	Activity. 18.
17. Not expect students would have grasped all of what was happening.	CF	Desire.
18. They watch me start looking for a file.	+D	Activity 15.
19. I know exactly where I am in the environment.	CH	Self-image.
20. They sometimes find it daunting.	CH	Students' attributes. 16.
21. If they manage to save a file within the software by being prompted, I will be quite happy this	CF	Desire. 16.

## Case study 9.

Decision Statements	Typology	Linked Decision
1. Look at HN Unit descriptor	+DO	Curriculum. 2.
2. Interpret assessment requirements.	BH	Students' needs. 1.
3. Interpret operating system as 'disc'	BH	Lesson content.
4. I think that is very important.	CH	Students' needs. 3.
5. I have two targets I want to reach.	+D	Teacher's desires.4.6.7.8 9.10. 11.
6. Understand the idea of disc operating system.	+D	Students' needs. 5.
7. Manage a computer system.	+D	Students' needs. 5.
8. This will make students comfortable.	CF	Students' needs. 5.
9. They will know what is happening	CF	Students' needs. 6.7.10.
10. They don't even know what they've called it.	BH	Students' attributes. 9.
11. They don't even know whether they've saved it to hard disc or floppy disc.	BH	Students' attributes. 5.
12. Well how did I learn it? What were the connections I made?	CH	Self-image. 13. 14.
13. I will be going over my own learning process and breaking it down	+D	Strategy. 12.
14. It's better if someone explains it and demonstrates it.	CF	Activity. 12.13.
15. Then go away and try it.	CF	Activity. 5.6.7.8.9.14.
16. Don't let students plod on aimlessly	-D	Strategy. 14.
17. Demonstrate using computer.	+D	Activity. 14. 16. 18.
18. I know exactly where I am in the environment.	CH	Self-image. 17.

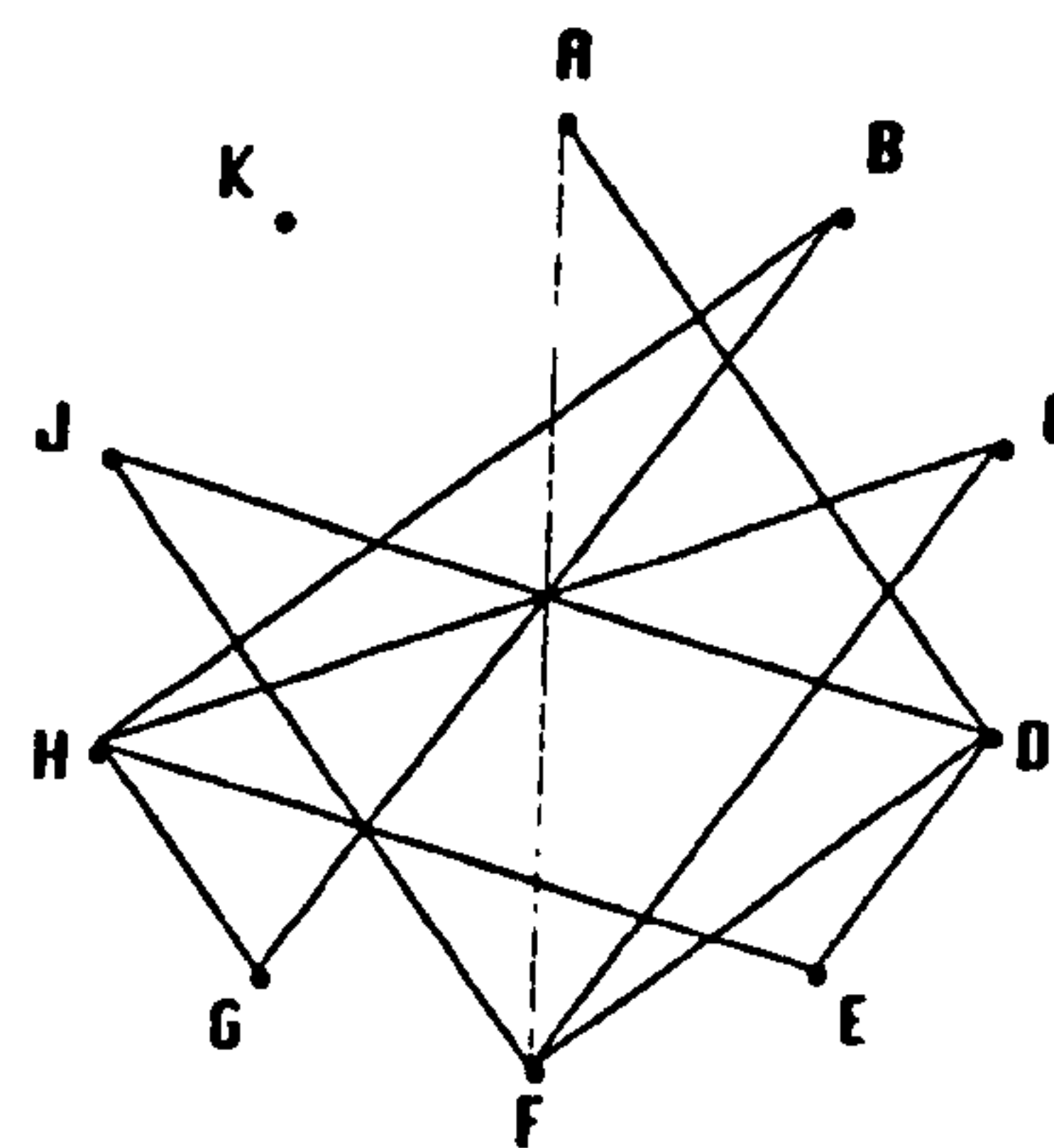
## Codified Focus decisions (organising categories), Linkages and Internal Context Diagrams

To illustrate the relationships between decisions, the data above is re-presented below in graphic form for each of the case studies. Comparison of the graphs reveals that there is considerable variation between the type and number of links in individual teachers' patterns of decision making.

### Case Study 2

Code	Focus decision		Linked decision	Code
A	Curriculum	3.		
B	Self-image	16.17.		
C	Teacher's desires	19.	8.	F
D	Lesson content	4.6.	2.3.5.7.8.9.	A.E.F.
E	Student attributes	1.2.		
F	Student needs	5.7.8.9.18.	3.6.13.	A.D.J.
G	Resources	14.	17.	B.
H	Strategy	11.12.15.20.21.	2.14.17.18.19.	B.C.E.F.G.
J	Activity.	10.13.	4.5.6.7.9.	D.F.
K	Time			

	A	B	C	D	E	F	G	H	J	K
A				*		*				
B							*	*		
C						*		*		
D					*	*			*	
E								*		
F								*	*	
G								*		
H										
J										

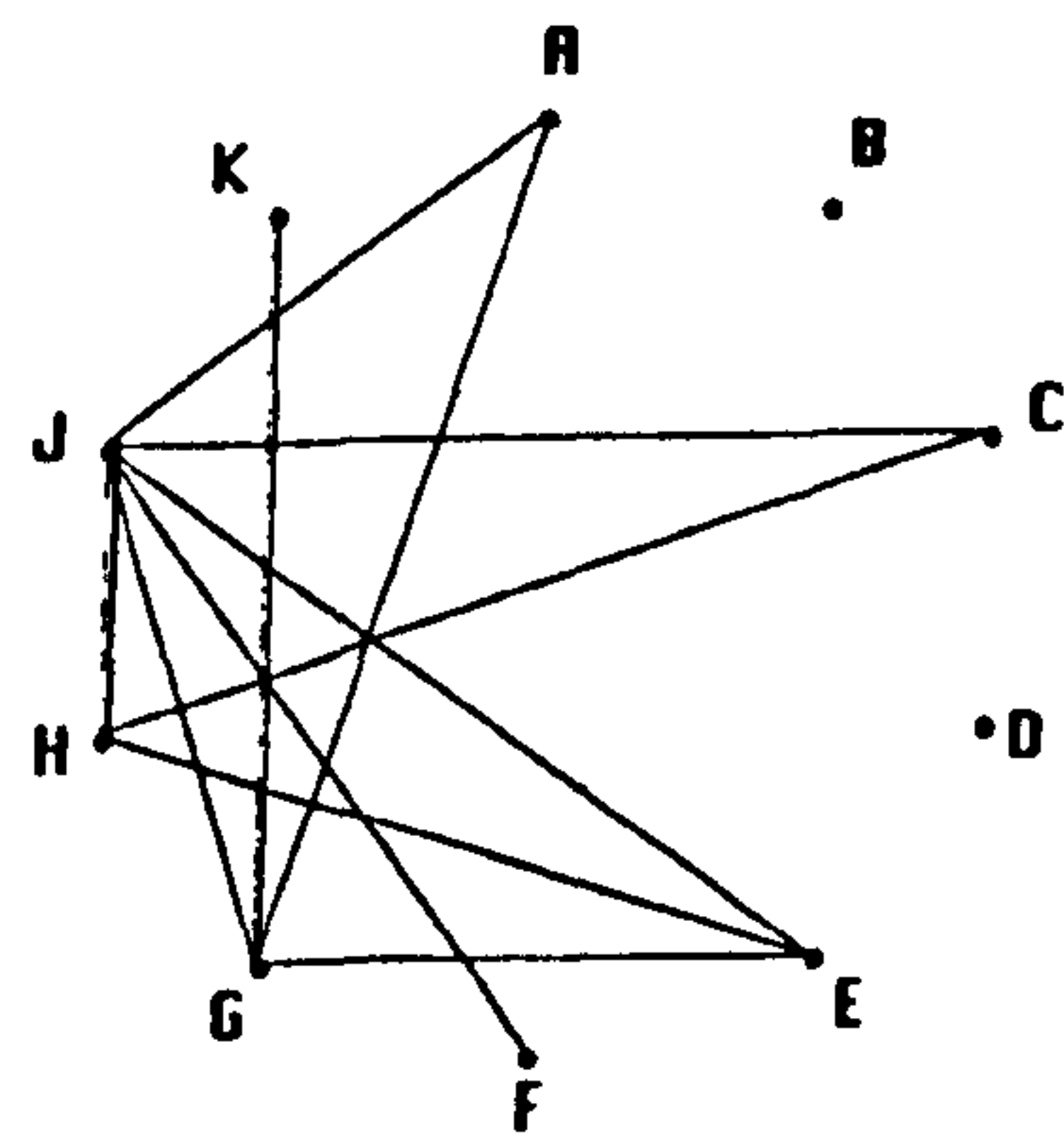


Case study 2

### Case Study 3

Code	Focus decision		Linked decision	Code
A	Curriculum	13.21.	7.9.11.12.	G.J.
B	Self-image			
C	Teacher's desires	3.17.18.		
D	Lesson content			
E	Student attributes	1.2.15.		
F	Student needs	20.	10.11.	J.
G	Resources	12.14.	4.5.11.15.16.	E.J.K.
H	Strategy	6.8.19.	2.3.4.5.7.10.11.18.	C.E.J.
J	Activity.	4.5.7.9.10.11.	2.3.	C.E.
K	Time	16.		

	A	B	C	D	E	F	G	H	J	K
A							*		*	
B										
C								*	*	
D										
E							*	*	*	
F									*	
G									*	*
H									*	
J										
K										

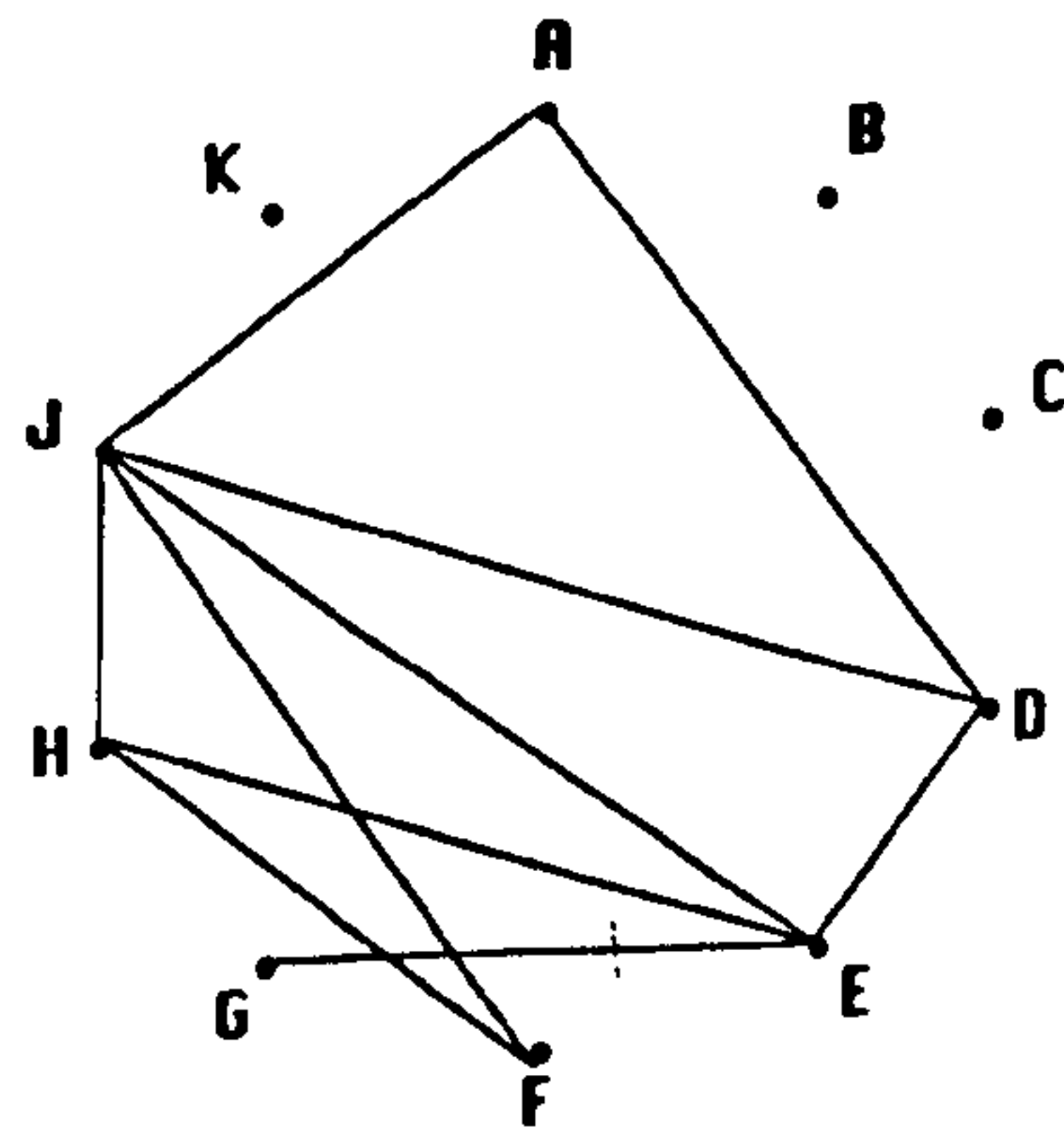


Case study 3

### Case Study 4

Code	Focus decision		Linked decision	Code
A	Curriculum	1.		
B	Self-image			
C	Teacher's desires			
D	Lesson content	2.4.	1.3.	A.E.
E	Student attributes	3.5.16.	2.	D.
F	Student needs	10.	9.	J.
G	Resources	8.14.15.	5.16.	E.
H	Strategy	11.12.13.	5.7.10.	E.F.J.
J	Activity.	6.7.9.	1.2.5.12.	A.D.E.H
K	Time			

	A	B	C	D	E	F	G	H	J	K
A				*					*	
B										
C										
D					*				*	
E							*	*	*	
F								*	*	
G										
H									*	
J										
K										



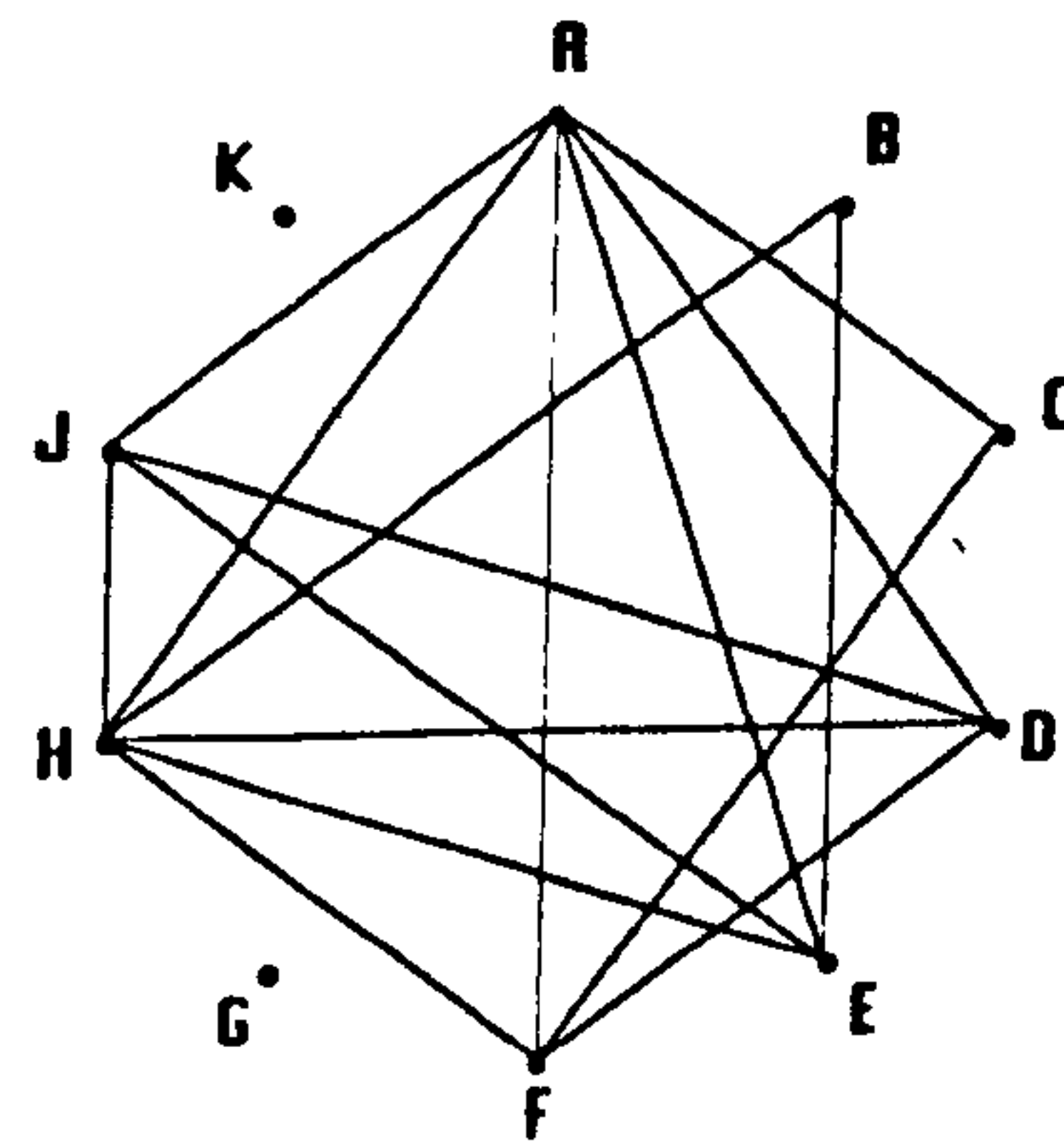
Case study 4



### Case Study 5

Code	Focus decision		Linked decision	Code
A	Curriculum	1.2.		
B	Self-image	7.8.11.	10.12.	E.H.
C	Teacher's desires		23.2.	A.
D	Lesson content	13.14.26.	1.2.15.	A.F.
E	Student attributes	3.5.12.18.19.	1.2.16.17.	A.H.
F	Student needs	15.24.25.30.	2.13.14.23.29.	A.C.D.H.
G	Resources			
H	Strategy	9.10.16.17.22.29.	1.2.7.8.13.18.21. 24.25.26.27.28.	A.B.D.E.F.J.
J	Activity.	4.6.20.21.27.28.	1.2.3.5.16.18.19. 26.	A.D.E.H.
K	Time			

A	B	C	D	E	F	G	H	J	K
A			*	*	*	*		*	*
B					*			*	
C						*			
D						*		*	*
E								*	*
F								*	
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H								*	
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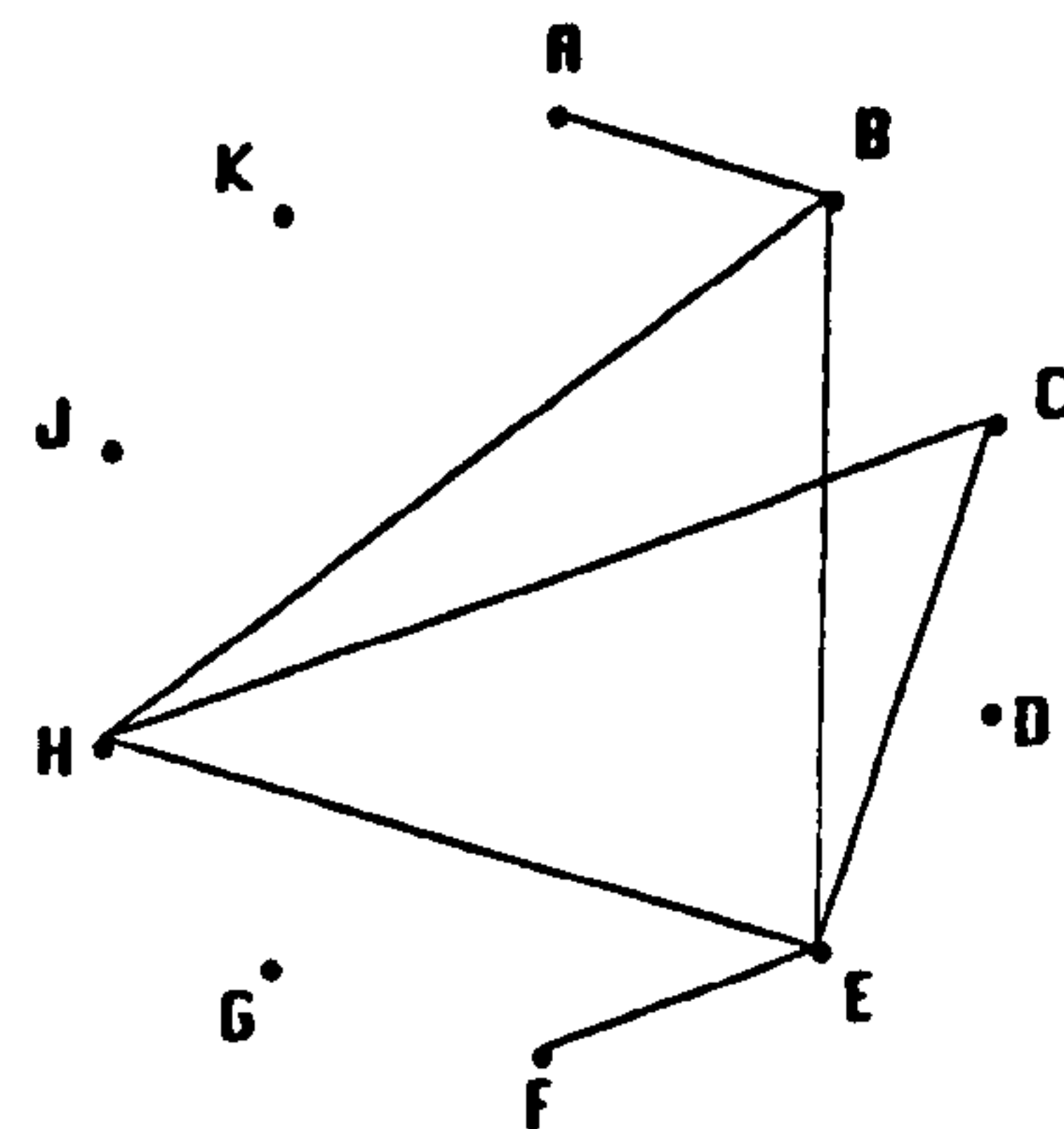


Case study 5

### Case Study 6

Code	Focus decision		Linked decision	Code
A	Curriculum	1.		
B	Self-image	2.3.4.5.6.8.16.	1.7.9.	A.E.H.
C	Teacher's desires	11.14.	9.10.13.	E.F.H.
D	Lesson content			
E	Student attributes	9.20.	19.	F.
F	Student needs	12.13.15.17.19.		
G	Resources			
H	Strategy	7.10.18.21.22.23.	2.3.4.5.9.	B.E.
J	Activity.			
K	Time			

	A	B	C	D	E	F	G	H	J	K
A	*									
B					*			*		
C					*	*		*		
D										
E					*			*		
F										
G										
H										
J										
K										



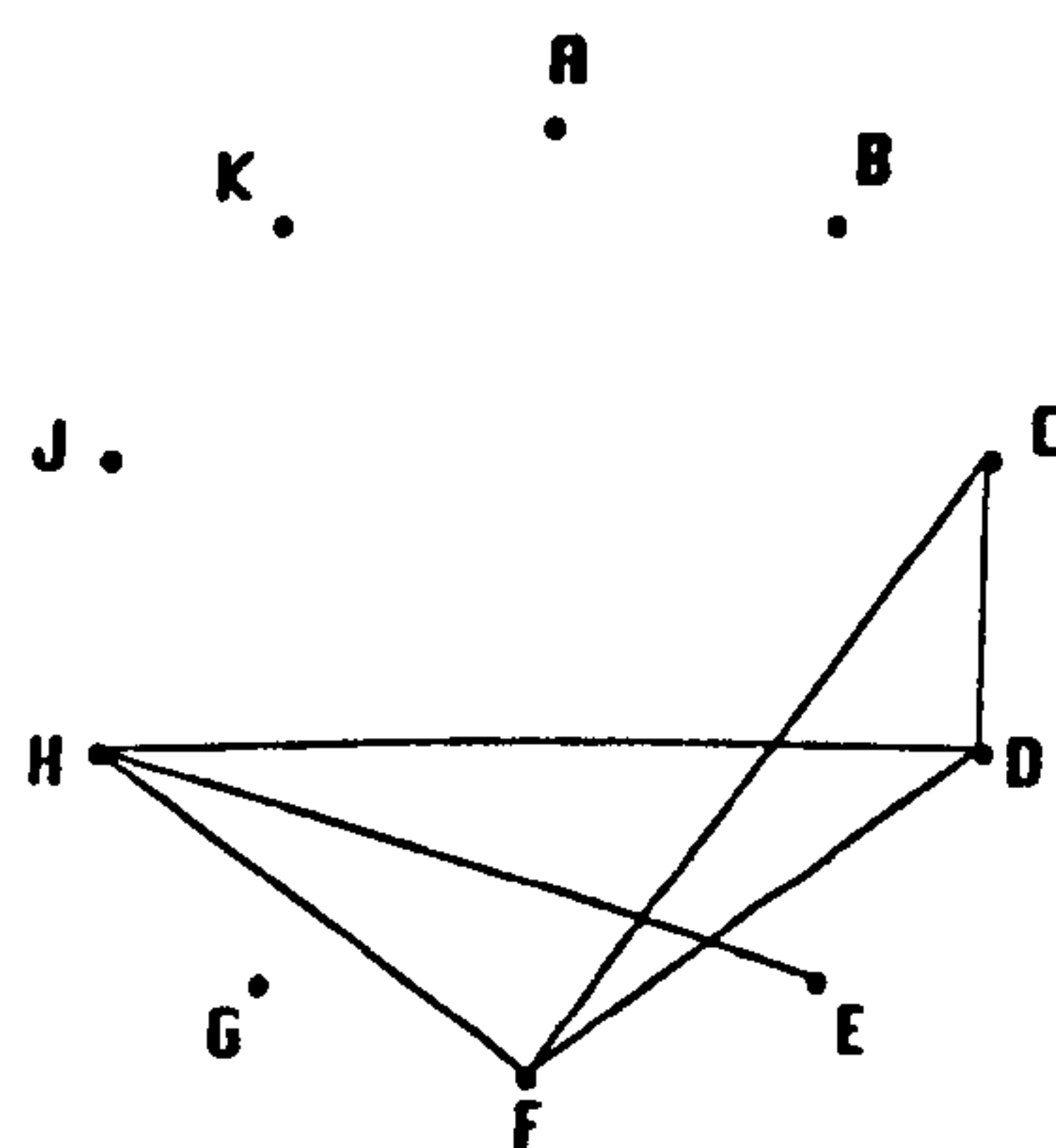
Case study 6

### Case Study 7

Code	Focus decision		Linked decision	Code
A	Curriculum			
B	Self-image			
C	Teacher's desires	3.	2.	D.
D	Lesson content	1.2.		
E	Student attributes	6.		
F	Student needs	4.	2.3.	C.D.
G	Resources			
H	Strategy	5.7.8.	2.4.6.	D.E.F.
J	Activity.			
K	Time			

A B C D E F G H J K

A  
B  
C  
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F  
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H  
J  
K

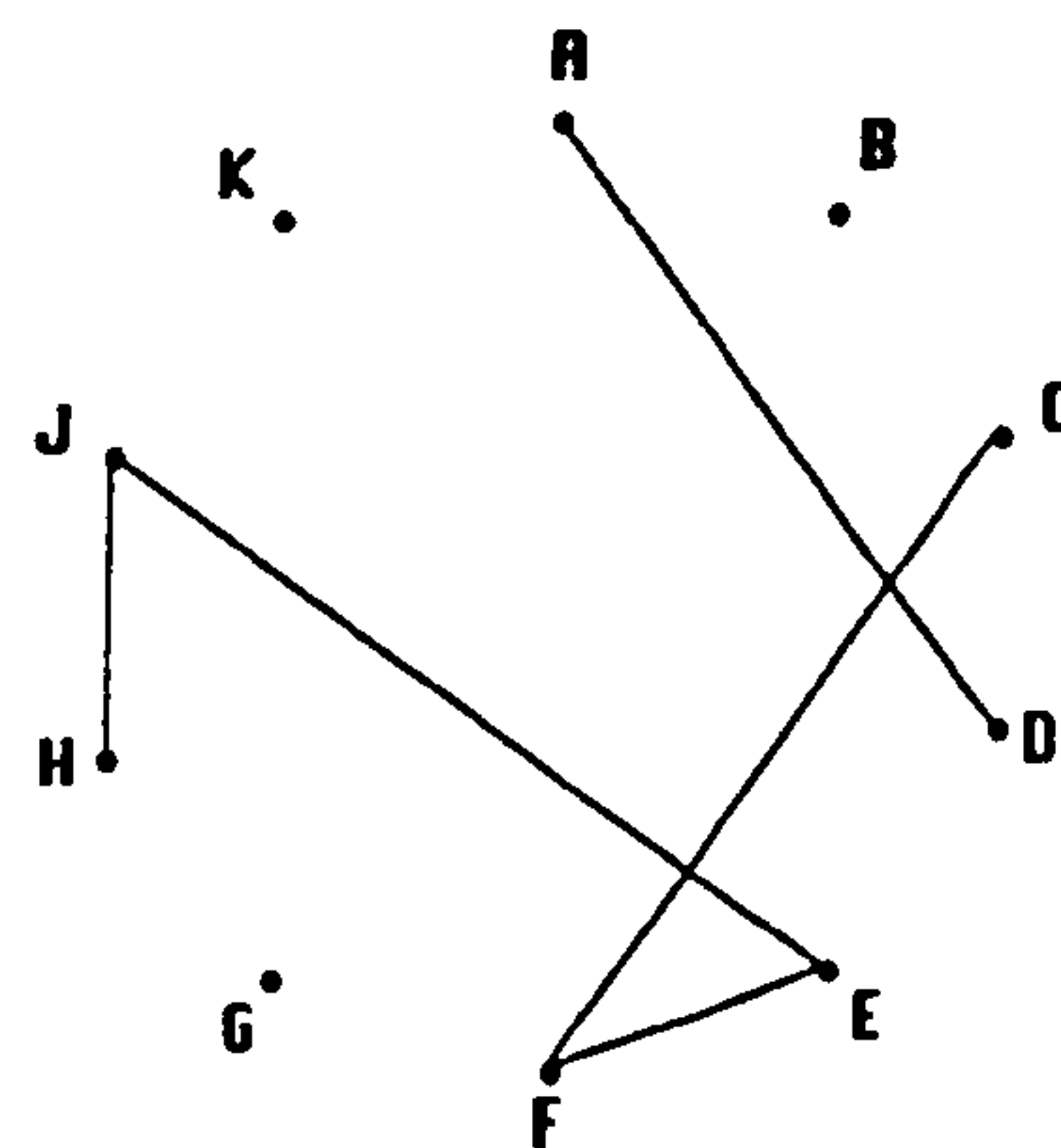


Case study 7

### Case Study 8

Code	Focus decision		Linked decision	Code
A	Curriculum	1.2.		
B	Self-image	19.		
C	Teacher's desires	6.17.21.	7.8.9.10.12.16.	F.J.
D	Lesson content	3.	1.2.	A.
E	Student attributes	5.20.	4.16.	F.J.
F	Student needs	4.7.8.9.10.11. 12.13.	3.	C.
G	Resources			
H	Strategy	14.		
J	Activity.	15.16.18.	14.	H.
K	Time			

	A	B	C	D	E	F	G	H	J	K
A				*						
B										
C						*			*	
D										
E						*			*	
F										
G										
H									*	
J										
K										

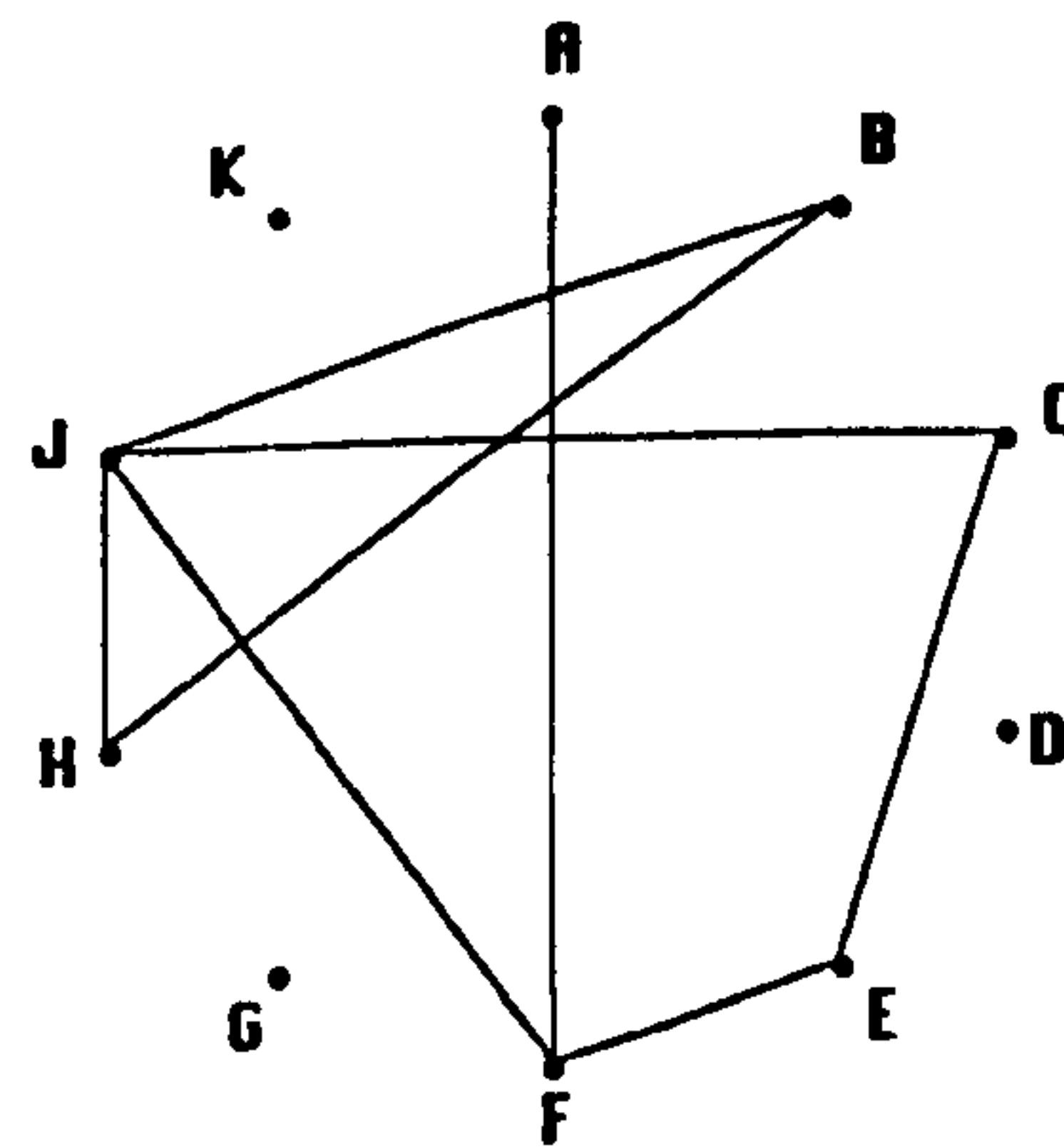


Case study 8

### Case Study 9

Code	Focus decision	Linked decision	Code
A	Curriculum 1.	2	F
B	Self-image 12.18.	13.14	H
C	Teacher's desires 5.	4.6.7.8.9.10.11.	E.F
D	Lesson content 3.	2.	F.
E	Student attributes. 10.11.	9.5.	C.F.
F	Student needs. 2.4.6.7.8.9.	1.3.5.10.	A.C.D.E.
G	Resources.		
H	Strategy. 13.16.	12.14.	B.J.
J	Activity. 14.15.17.	5.6.7.8.9.12.13.	
		16.18.	B.C.F.H.
K	Time		

	A	B	C	D	E	F	G	H	J	K
A						*				
B								*	*	
C					*	*			*	
D						*				
E						*				
F									*	
G										
H									*	
J										
K										



Case study 9

## **Analysis of Teachers' Reviews of Their Lessons.**

### **Case study 2 : Roger**

In reviewing his lesson, Roger started by saying:

“I think to start off with I was a bit nervous and a bit flustered. I felt it settled down a wee bit and I got a wee bit nervous again when they were sketching.”

Roger considered that his nervousness stemmed from the fact that he was being observed by an outsider:

“If I’m leaving them too long drawing, you’re not seeing us doing anything, so I was trying to just keep talking or whatever”.

The researcher told Roger that it was quite normal for teachers to feel somewhat apprehensive, when first observed teaching, Roger appeared to be reassured and went on to report:

“I’ve been preparing for this for months, and looking back on the lesson, I think it went not too badly. I tried to ask some of the lads that are sometimes a bit dozier some questions, more to try and keep them alert. I think it went O.K.”

When asked how he felt about the responses he got to his questions, Roger replied:

“Some of the responses were quite good, it was good to find that some had actually been doing partitions and that I got to ask them what they had been doing. Until I went on to the materials the lesson was O.K. but I rushed that a bit at the end just to try and get all that in because I had it in my lesson plan.”

When asked to explain why he found it necessary to stick to the lesson plan when he was aware that it was not working, Roger replied:

“Well, I was worried about that. When you speak to people here they are saying ‘watch you don’t do it too fast, don’t do it too slow, make sure you are within the time that you’ve got on your plan’ and, you know, you’re taking all this information from everywhere and your mind is just going all ways, so I had that in my mind to try and keep to the time, that is why I said I had better go on quickly on this. I had other sketches there for them to sketch, other types of partitions, so I told them they could do that later and I tried to just get on to that just for the sake of it because I would have felt that they were sitting there too long just sketching”.

Roger explained that he did not think it would be very impressive for someone observing his lesson if students were just sitting sketching. When asked if he would normally have allowed the students time to complete their sketches, Roger replied:

“Yes. The only thing I really changed was I put the slides up and told them I would let them sketch that later and then rushed on to the materials because I had it all done. I wasn’t sure how it was going to go, and I thought ‘I’ve got to have that there’. I’ve even got a wee backup lesson there just at the ready I was going to show you if I needed it. I was going to draw on the board and all that, so maybe I shouldn’t have introduced the materials at this stage. I should maybe have just left it and just let them do their sketching. I realise things that I shouldn’t have done, but I had it all on my plan and just listening to everyone saying ‘Oh, you had better not go under the time’, or, ‘don’t go over the time’ and then I thought if it is a few minutes it will be O.K. and then I had a quick look at my watch and then I thought ‘I’m going to have to move on to get on to this material here and to tell them a wee bit about it as well. If I hadn’t gone to that, I might, I think, by the time they had finished all the sketching, I might have just been starting that and that might have run on a but longer than I expected”.

Asked if he would have behaved in this same way if the researcher had not been present, Roger replied:

**“No, because I would pick it up later. I’ve got them here this afternoon.”**

**When asked to explain more fully the effect of having an observer in his classroom, Roger replied ‘I’m just worried that I am doing things right’. He went on :**

**“Actually, it was better today - the other day I said to the technician ‘Do you want to come and watch me while I am doing some of the timber joints?’ and he came in and as soon as he came in I just sort of - it just must be me - you know, a bit nervous again, I was all sort of panicky because he was sitting watching me, but then after about 5 minutes I settled down again, but I think I just get like that. Because I felt the time had started to run out, I decided I had better get on to the materials, just in case you said to me at the end of the day ‘Well, you’ve got this here (referring to his plan) and you have not covered it within the time limit’ and that is what I was concerned about.”**

**During the lesson, Roger had asked the students to copy a drawing he had projected on the overhead projector screen. Before the students had had time to complete the drawing properly, Roger replaced it with another diagram and started to explain ‘This is a different type, this is the next type’. Asked why he interrupted the students’ drawing, Roger said:**

**“I just flicked through them quicker than I normally would have done. It was just to let them see that different type of partition, again, they’ll sketch that later, but it was just to quickly let them see that so that I could rush on to this material here. I was worried that I was leaving them on their own and you were here to see how I was putting on my lesson and I just thought ‘well, that wasn’t very nice, you sitting here wanting to see me doing something and they were just sitting there for ages drawing’”.**

**Roger summed up his report by saying:**

**“I think I tried to cover too much in the lesson because it was in my plan and I**



didn't want to leave anything out. When I went on to the materials at the end, I rushed that and that was maybe giving the students too much, but the rest of the stuff, all the terminology and that, I think that was O.K. and a lot of it linked together but I think my difficulty was that I rushed through the lesson too quickly. Normally, I would have cut out some of the material and given them time to complete their drawing, but I didn't want them sitting there for an hour drawing while you were here because then you wouldn't see me teach. When they come back this afternoon I'll let them carry on sketching and then I'll go over all the material with them again".

### **Case study 3 ; Raymond**

Raymond started the review of his lesson by saying:

"Well, what put me off right away was - the mature student we had in the class, it was a bit bad organisation on my part because that lad he is coming on the course, he's actually sitting first and second year at the same time and what threw me off right away, this was his first week, I thought it was his second week, you know, he has not done what the other lads have done and that - you know - just one of these things, you know - clang. That annoyed me at the start. I don't know if it showed or not, bad preparation really but because he is mature he has a wee bit more experience anyway and he tends to be a wee bit in front of the other chaps in any case, so I don't think it turned out that bad, but thinking about it, I went right off the lesson plan right away. I think there was too much in my lesson. The students seemed kind of reluctant. I wanted to work them in pairs just to see what they thought, but when they were working in pairs you tended to think 'Who was the guy that had done the work and who was the guy who was the hanger-on'. I am not familiar with them yet and maybe that knocked me back a wee bit. I didn't know who to put with who, I just chanced my hand at the time".

When asked “How did you decide which students would sit together?” Raymond replied:

“I didn’t. I just took it as pure chance. I don’t know if they have struck up relationships with each other yet or not - pals tend to stick together and I think at this stage in the year I think it’s better they are sticking with their pals because they will tend to get things done. There was a wee lad there on his own paired up with a guy, but he was in a sort of a wee world of his own and there’s nothing wrong with that, but it’s being unfamiliar with them, I think”.

Raymond went on to explain that this was the first occasion on which he had attempted to produce a written plan for a lesson. When asked what he thought about his experience of planning, he replied:

“It’s a good thing because you know exactly what you’re going to do, when you’re supposed to do it within a time bracket, they’re great things, I don’t deny that, it makes you think, by God it doesn’t half make you think and you are thinking ‘How am I going to get this across, will I do it this way, will I do it that way?’ I could have given the boys handout upon handout copying things down, I tend to mix that, but when they were actually extracting information out of the handout to put on their sheet prior to doing the plugs - I gave them different plugs - the instructions are basically the very same for wiring up the plugs - but the information was based on NK plugs but I gave them an Ashley plug. They’ve got to adjust the mind a wee bit - look at the instructions on the back of the plug because it tells you, just adapting what they had done to the situation they were given, but certainly the lesson plan it made me really, really think as to what I was going to give them and how it should be put across”.

Asked if he felt satisfied about how the lesson had developed:

“No, no, I wasn’t. I think it could have been rummaged about a bit, changed round a wee bit possibly, but I did it the way the worksheets were laid out. I should probably have changed that around”.

Raymond explained that the worksheets had been prepared a year ago, by 4 lecturers working together, for a different module:

“I never made up the worksheets for this lesson. I should maybe have adapted it, but I never had time. Being honest with you, there were one or two wee omissions on the worksheet that I thought, if I had taken the time, I could have amended. For instance, it only spoke about two terminals, the live terminal and the earth terminal, and it didn't tell you where the neutral terminal went. All right, where do you put it, it doesn't take a genius to work out where it should go, but the worksheets could maybe have been amended. The lesson needed more time, the lads were itching to get away. There was actually too much in the lesson plan, but if I had known that I should have cut it down a bit, but I didn't want to just in case. I think we were about, say, 20 minutes short. The tools were crap and I didn't expect to get landed with something like that this morning”.

In summing up his report, Raymond said:

“As a lesson I thought it was fair to middling, for lack of better terminology. It could have been better, yes, but then again maybe it could have been a hell of a lot worse. There's definitely room for improvement. I think the students felt O.K. with the subject. I like to have a relaxed kind of atmosphere anyway, you know, I don't like the desks arranged like this, I prefer to have them in wee groups”.

The latter remark referred to work benches which were fixed to the floor in rows.

#### **Case study 4 : Bill**

As part of his review Bill said:

“It didn't go as well as it might but these things never do, I suppose, it's the first time I've ever come across them getting mixed up with the colours that they are

meant to be putting into different boxes because the examples as there for them to see. The 3 that were having most difficulty were the 3 that never really pay attention anyway, and it's the first time their desks have been grouped together."

Bill went on to explain that he preferred the students to work in small groups, but up until now he had arranged the seating in rows.

"I don't like them sitting in rows but it makes it easier for me to remember their names if they are sitting in the same place. This time they were in their little groups as I like. I prefer them to work in little groups but obviously that little group there needs changed because they really were not paying attention as they should have been which was one problem. The majority, I would say, have produced colours which are very close but all of them have not got the colours where they should be but this is really their first classroom-based lesson, it's the first time they've actually had to sit down and do something in the class, as it were, produce something".

The students were in their second block of college attendance. The first block had been of 3 weeks' duration, followed by 5 weeks' in their workplace, and this was the first day of their second block. He then went on to compare the student group with previous groups:

"There's a greater degree of ability than you would usually see, but one or two are very poor, but I think it's a bit early yet that is why they are slow basically".

This was a cause for concern:

"What usually happens is that within the first 6 months the CITB assessor comes and assesses their progress. If the students are not doing well at the college or at their workplace then the CITB will withdraw them".

When asked how the college reacted to this, Bill replied:

“Well, they’ve got to accept that because it is what happens. Obviously it is a concern because most of our students come through the CITB and the CITB will just not take anyone on the course who can’t manage who has shown themselves to be really struggling. They are the managing agents, they’re the ones who supply the money, therefore, they have the ultimate say”.

This created a conflict of interest in that he was responsible for both the teaching and the assessment of his students; if the students failed to meet the assessment requirements and were withdrawn by the CITB, the college would lose revenue and his job would possibly be in jeopardy. He was concerned about rumors that, following incorporation of colleges which was shortly to take place, the college would aim to achieve a staff/student ratio of 1 to 16. With his student groups being no larger than 12 to start with and with the possibility of a reduction in numbers shortly after the commencement of the course, he was concerned that his department might be closed down rather than those he referred to as more lucrative. His dilemma, therefore, was to maintain his student numbers whilst not lowering the standards of assessment. He felt that this dilemma could be resolved if more careful attention was given to the selection of students in the first place.

“Some of the students who come are just not able for it, I don’t think they are suitable”.

Bill considered that the motivating of students was a major challenge to him in planning and delivering teaching and learning, but was concerned that students could not be motivated if they did not possess the abilities required to master the assessments. Bill was enthusiastic about his subject matter and was confident in his subject expertise but confessed to being less confident in his ability to increase the motivational level of some of his students.

### **Case study 5 : Andrew**

As part of his lesson review Andrew said:

“Well, I think I overestimated how much I could put into the time so I’ve still got a bit to finish. I think they had difficulty in the initial stages appreciating what was going on because I hadn’t defined the situation closely enough for them, leaving it too wide open was confusing for them. As I went round the groups they were a bit stuck as to what they were intended to do .....so, I think, I was working far too much in general terms, that’s why I gave them a wee bit more definition so that they could have some idea in their heads of what they were actually comparing and I think they probably all had a good think under that circumstance. It was definitely a wee bit of a problem with the definition they were set in the first place. I’ve taken that on board and in future will give them a situation with, perhaps, a bit more detail before asking them to attempt a comparison. I think they really need an example in a bit more detail before they can broaden out their thinking and take a more abstract view. I realise now that they hadn’t experienced this”.

When asked if he had considered the extent of the students’ experience when planning his lesson, Andrew replied:

“No, that is something that was coming up as we were going through it and that is why I changed the second phase. I gave them a bit more detail, I think they were struggling a bit when thinking in these abstract terms. I think I’m probably making the mistake of assuming that because I can think up several examples or situation, that they can also do this, but I realised early in the lesson that they’re lacking background experience. I think if I had given either an example or a specific situation which they could focus on to start with they would have managed the exercise better”.

Andrew commented upon possible changes in his planning of lessons in future:

“I think, in fact, it could be fun to get each group to think up an individual example, and even if I didn’t get round all the groups, to give time for one or two of the groups to give us the examples that they’ve come up with and how they

thought about it, and then find a group that has taken a different example entirely, or fairly different example, and give us their impression of it, I think the rest of the group as a whole would then begin to see the differences in approach, so that they could relate it to their own experiences”.

When asked how successful he considered the lesson to be, Andrew replied:

“I think in terms of success, probably fairly low, in terms of what I had hoped to achieve, but I think it is going along the right lines. It will need reinforcing as we go on to further lectures to keep coming back to that sort of approach but, in terms of looking at the course over all, I think it was a reasonable start. I have got them thinking, not just to look at a text book for the solution of a problem, they are beginning to think in terms a bit broader than that. I think maybe I’m expecting too much in the time available - one lesson, but we will reinforce what they have been getting today by keeping coming back. It was a reasonable start but it wasn’t conclusive. That is really what I see as being the main difference between the National Certificate and the Higher National Certificate. The HNC is trying to reshape their way of thinking and their approach to the problems of construction, rather than the technical information that they can all, at present, regurgitate. Hopefully, by the end of the course, they will have some sort of confidence in approaching any sort of problem”.

### **Case study 6 : Fred**

Fred reviewed his lesson by saying:

“It followed the plan I had. I think the students understand the principles from my questioning in the class. I also gave them some written questions to take away with them and I’ll mark these next week and see if they really did understand and if they are ready for the assessment. I think they are, but this will be a double check and if I find the written work is not as good as I expect, then we will do some more revision on it. As I went through the lesson, I found

that the answers and the level of discussion was what I expected. Had it not been, then I would have cut some of the content and spent more time on the bits that the students appeared not to understand. I would just have put the other topics on the back burner”.

Fred explained that the assessment instruments had been designed by himself and one of his colleagues and approved by Scotvec. Therefore, he felt very familiar with the requirements and was in a good position to decide when students were ready to be assessed.

During the lesson Fred had given the students a number of handouts which he had asked them to take away and read in their own time. When asked how he decided the content of these handouts, Fred explained:

“The content comes from technical books, journals and other publications. I might extract a whole page, or part of a page, and enlarge it or reduce it, or add some notes to it. My idea was that if I teach the principles correctly then the students can use the material that I give them for illustrating examples, or simply as reference material. I found from experience that this reassures the students. Once they understand these basic principles then it is much easier to understand what happens in practice. It is my normal practice to give them this kind of handout material which can tell them and show them the technical detail and actual examples of these principles in practice. So that is how I used the materials in today’s lesson - for the same purpose - to give assurance to the students. We had a lot of questions and answers today because I like to build up relationships with the students. They are mature students with diverse experience and I feel that they have a lot to contribute, so you will have noticed that I didn’t give very much information and I didn’t tell them very much. I asked questions to get a response and then these can be used to arrive at the correct conclusion from their own experience”.

Over the period of 3 years in which he had been teaching, his confidence had grown and



his approach to teaching had changed:

“When I first started, I stood in front of the class and talked. Each lesson was the same, it was just the repeat of what I had to say. If I didn’t cover the content I would give them a handout and tell them to read it. On the next lesson I would go hell for leather to catch up, but I’m now less concerned with covering all that I planned in a lesson, and now stress that they have to contribute and that they are responsible for their own learning. When I started doing this, students seemed to work much harder and some of the students of previous lessons, or previous courses, have now gone on and they’re doing university degree courses. I’ve found that by involving the students and using their experience I could complete the module much quicker than if I tried to talk my way through it. It seems ironic, really. In this way I could facilitate more complex learning beyond the level required for the module, but peer pressure, I think, can also affect student performance because of their attitudes. In another class they took no responsibility for their learning and that was just awful. It was extremely disappointing for everyone”.

When asked what had brought about this change in his thinking, he replied:

“I was thinking about it, and once I was confident that I knew the material well and that I had enough information and technical expertise, I started to think about what was actually required in industry. I felt my way of teaching didn’t match with what was required in industry, so as you saw in today’s lesson, I put a lot of stress on communication with the students and between the students. There is a separate module on communication within the modular system, but I think that compartmentalises technical topics from communication and the students don’t see the relationship. I think technical expertise should be mixed with communications so that is why we had a lot of questions, answers and discussions this morning”.

Fred reported that he now felt much more comfortable with teaching and considered his new approach to be much more satisfying:

“Thinking about how I teach is interesting, I’m curious to find out if the ideas I have for teaching actually work. I get the opportunity to think about the knowledge I have and, perhaps, rationalise it. I could categorise it into my relationships with the subject and my relationships with the students. I get satisfaction by taking the subject a bit farther than I had before. I feel that it is necessary to be prepared in order to guide or teach the students and I get satisfaction in my relationship with students by finding out if my teaching methods are correct or not. I also get personal satisfaction in being able to communicate. The best part of the job is developing relationships with students. I don’t get much satisfaction from the politics of the college”.

This latter remark related to Fred’s involvement as a member of a teachers’ union which he felt was now being undermined and devalued as a consequence of incorporation of colleges which had resulted in each college management negotiating, or in Fred’s view “dictating”, new and less favourable conditions of employment for F.E. teachers.

### **Case study 7 : Gordon**

Gordon reviewed his lesson by saying:

“Actually, I didn’t think there was as much in it as there should have been. I thought I could have put more into it, but on saying that, when you get the carry on you get “all you need is a bit of silver paper rather than a fuse and that type of thing” you know, if I had been with a different class, a second year class, they are more into the reality of things, rather than how to shortcut the system. For the amount of people I had in the class and the level I felt in my mind, I felt I had programmed it out that the content was enough for them. They started off by getting a wee introduction, a wee topic - “do you understand it?” “Yes” - the next wee topic - “do you understand that, what is it all about?”. Right, let’s go on to

another one and then I sort of revise just verbally with them and then just give them a wee test to make sure that they have learned so much”.

During the lesson the students had asked a number of questions to which Gordon had responded with some annoyance. When asked to comment on students’ questions, he replied:

“Because of what they had asked in the water side of things, I knew I would get the unnecessary questions. The ones that didn’t mean anything in relation to the subject. I expected that would probably happen, that they would ask the questions that you didn’t want them to ask, but they asked them anyway, you know”.

Gordon was asked “If you were planning to repeat this lesson next week with a similar group of students, is there anything that you would change?”:

“I would maybe decide not to do the thing the way I did it - I would spend time - never mind about the generation of electricity, for example, just tell them that when you get electricity into the house it is 240 volts, and never mind about this - how it gets there, you know. I might have decided to bring in a distribution board and just take it apart and say “this is what it looks like on the inside and this is why you’ve got all these different fuses”. I could have spent more time, I suppose, discussing the circuits of electricity although you have to watch. I feel that with the age they are at you can’t afford to go too deeply, you know, they know you can switch on a water heater and they know you can plug in a washing machine into a circuit, but they seem to think it’s something different when they switch on a television into a circuit that the washing machine is in, they don’t understand it is the same - and that is where - I mean you say to them ‘what do you use in the house?’ Well, they use the washing machine and the television and the radio and the kettle, but they don’t realise that this is the same basic circuit of the electricity and I don’t think I can go over too much of that”.

Gordon was asked if he considered today's lesson a suitable topic for this type of student. He referred to an incident during the lesson while students were discussing the consequence of overloading an electric circuit:

"That big guy asked "can I come out and explain it?" He is not very good at putting things over, you know, and then he comes out and says you can put wire for a kettle in there and then there is a great brouhaha about "well, why can you not do it this way?". They think, depending on their background, or their street-wise approach to things, they think they are being clever "ouch, you can save yourself a bit of bother here, you can wire two things into one plug". You know, you try to point out that that is not the way to do it, but you always get a negative response to that".

During the lesson, no reference was made to safety regulations or requirements, Gordon was asked "Where does the question of safety come into this programme?" His reply followed in a similar vein to his earlier comments:

"Eh, it just generally comes in, well, you've got the safety protection for the people who use the appliances and for the appliances themselves, and you've just got to point out that that is covered by the fact that you've got an earth and you've got a fuse and thereafter you're just pointing out that there is - you could spend a long time saying "tell me how you would wire a plug up, tell me what happens if the fuse blows?" but you get people there saying "oh, you just need to put in a bigger fuse, you just need to put in a bit of silver paper". You could spend a whole lesson on that but, again, it is the level these guys are at at the moment. I've got to spend a lot of time on it when I am with second and third years".

In summary Gordon said:

"I think you have to try and put it over that we are not interested in how to shortcut it, you've got to do it the right way and this is the right way. For

example, if you try to say to them “what happens if?” and they say “Oh, it goes on fire, it blows up” and that sort of thing, they understand that but they still don’t want to know about not using a piece of silver paper as a fuse, so there is a big lack of appreciation of what they are dealing with and, again, because it’s a class that has got to get a wee insight into things to let them know what it is about, but they are not going to be involved in anything like that for another couple of years, you ask who has all put a plug on, God knows what the wiring of the plug would be like but we are not allowed to teach them wiring of plugs at this age”.

At this stage, the interview was terminated. It seemed to the investigator that Gordon was experiencing some difficulty in articulating his thoughts and there was no wish to embarrass him by pointing out that his last comment was contradictory, in that part of the course assessment requirements was the rewiring of a plug.

### **Case study 8 : Jim**

Jim reviewed his lesson by saying:

“Well, I knew I was starting the lesson late. I had a sheet for myself with times on it. I was trying to judge it per item and I was running over the time - that was partly with starting a wee bit late and partly with them taking a bit longer to get their drawing boards set up and things like that, and I knew after the first part of the lesson that I wasn’t going to have time to do everything I set out to do. So, in actual fact that part where I brought them together to try and exchange ideas and figure out where all the problem areas were, that wasn’t meant to happen until the next part, but I didn’t see any problem in bringing it forward anyway. I felt at the end of the lesson I was getting the feedback that I was expecting to get. They had not totally conquered what I was trying to put over to them, but they’re starting to think along these lines”.

Jim's conclusion was that since the lesson had gone well and the students were progressing as anticipated, he was not too concerned about the time element.

### **Case study 9 : Alan**

Alan reviewed his lesson by saying:

"I don't know if I was maybe over-ambitious in putting in all the stuff that I wanted them to have, but it wasn't bad. I think time-wise I actually sometimes am too conscious of time, trying to get the lecture to last the correct time and finish at a suitable junction and sometimes you find yourself over-running and other times you find you have under-estimated the time. It wasn't too bad, I felt maybe I was asking a bit much. I didn't give them enough time to practice on their own. One or two of them were OK. One, in particular, grasped it very well, but there were one or two of them could have done with more time on their own. I think I'll probably give them a chance next week to reinforce it and take 10 minutes to go through the previous weeks' work just to reinforce the situation. Time-wise, I felt it was a bit stretched but not bad. I felt it fitted in pretty well. I made one or two mistakes, I just overlooked on the second stage of saving a document, save document to specified directories on my disk, I had removed my directory and hadn't replaced it so I had to borrow one off a student, you know things like that, no great hassle, but apart from that I thought it was OK. I think, actually, that I am very conscious that this type of thing tends to be a bit dry as well. I felt that I had their attention for most of the time - I think splitting it helps - I think when it is a class like that and you have a sort of talking section and then you have a hands-on section, it splits it so that when you come back you are tuning back into it rather than listening to someone talking for hours."

Thank you for agreeing to take part in this survey. The purpose of the survey is to collect information about the opinions and views of FE lecturers in relation to their job.

The questionnaire has been designed from information supplied by a small sample of FE lecturers. What I would like to establish is the extent to which a larger sample of lecturers agree, or disagree, with the statements, and what other views and opinions there are which were not included in the original sample.

Please read the instructions for each section of the questionnaire carefully and complete the questionnaire from your personal point of view.

All the information in the questionnaire will be treated in **STRICTEST CONFIDENCE**. The results will be reported in aggregate in such a way that no information will be attributed to any individual.

Please return the completed questionnaire to:

Thank you for taking part in the survey.