Processes involved in an examination linked, teacher based curriculum innovation in secondary education

Thesis

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ABSTRACT

Processes involved in an examination linked, teacher based curriculum innovation in secondary education.

This study centres on an investigation of one example of grassroots curriculum innovation: the implementation by teachers of CSE Mode III examinations in physical education in one examination board.

The aim was to identify the important processes, particularly those related to the teacher, operating in the development and implementation of curriculum innovation.

The method adopted was a case study using participant observation techniques. A modified subjectivist orientation allowed appropriate strategies to be developed to analyse documents and proceedings of informal contacts and meetings with examination board officials and teachers, and formal interviews with teachers.

Implementing the examination course resulted in major modifications to the physical education curriculum and teacher's role.

In addition, system standardization associated with a developing national climate of accountability began to be imposed. Mainly because of this and the effects of economic restraints and falling pupil rolls, a plateau was reached in the number of schools implementing the courses.

Despite the growing constraints and reduced teacher autonomy the commitment and personal career satisfaction of some teachers has been maintained. The gratification gained from teaching exceptionally responsive pupils and the excitement stemming from involvement in curriculum innovation were identified as being significant rewards for

developing and implementing the course. Four categories of response to the implementation experience and increasing standardization were identified: acceptance, accommodation, retreat and alternative outlet.

The conclusions are that open systems based on process principles should be encouraged in the implementation of curriculum innovation, particularly with changes currently being proposed for examination linked, teacher based developments at 16+ and in vocational preparation courses. This implies broadening examiners' perspectives to be more sympathetic to subjective, interactive procedures, and improving teacher education in the principles and practices of assessment in order to manage the flexibility effectively.

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INTRODUCTION

This is the report of a study of a grassroots curriculum innovation. The aim was to identify the important processes concerning the user, the teacher. The implementation of the Mode III CSE in physical education in one examination board provided the opportunity for a close look at the teacher's involvement in innovation.

Section 1 identifies in existing literature issues relevant to the study of teacher based curriculum innovation and secondary school examinations.

Section 2 is an explanation of the modified subjectivist theoretical orientation adopted and the methods and techniques developed for the purpose of this investigation.

Section 3 is the body of the report where the findings from the analysis of the informal and formal meetings and interviews are reported.

Section 4 sets out the conclusions to be drawn from the findings.

Section 5 is a postscript which offers later reflections on the relationship of the more recent educational and methodological developments and the original thesis.

1.0 Teacher Based Curriculum Innovation and Examinations in Physical Education

1.1 Innovation

In the mid-seventies, when this investigation was started, the progressive, innovatory climate in education that reached its height in the 60's was still in existence. There was a general optimism that schooling and schools' problems could be fairly easily solved and that many of the solutions would come from investment of resources in curriculum innovation. The belief that any innovation was inevitably good had disappeared, but curriculum change on a broad front was still being extensively supported. The general pattern of development of innovation studies at that time according to Gross et.al. (1971) had been first a flood of studies describing the adoption and diffusion of innovation, followed by interest in how organisations initiated innovation, and subsequently in the conditions influencing its implementation. The emphasis at all stages was in finding rational technical solutions. Since this review of the literature in 1971 interest has developed in the role of individuals within organisations in relation to innovation and the need, for example, to take account of the response of the user and the importance of their feelings. The view was emerging that much innovation failed mainly because role changes in user systems were not recognised and accommodated. According to Rogers (1971) only a limited number of researchers had probed into how individual perceptions influenced innovation.

Innovation literature was mainly concerned with planned change and encouraged the belief that planning was necessary for success (Lippit et al., 1958, Bennis et al., 1970). Planned change which Bennis, et al. (1970, p.61) define as "a conscious deliberate and collaborative effort to improve the operations of a human system, whether it be self-system, social system or cultural system, through the utilisation of scientific knowledge", also carries with it the assumption of a major contribution from a change agent. These change agents adopting different approaches, which Bennis called empirical-rational, normative-re-educative, or power-coercive strategies were considered to be important contributors to the success of innovations. Although committed to the planned, interventionist approach to change, and presenting a very rational, objective orientated analysis, Bennis indicated a preference for normative re-educative strategies for bringing about change. These are strategies which place man in a much more positive role than the other two and concentrate on improving the problem solving capabilities of the system, and releasing and fostering growth in the persons who make up the system to be changed. This marked a first indication of a less bureaucratic view of approaches to changing and a growing awareness of the importance of the influence of the user on innovation. (Bennis et al., 1970, pp.52). It is a move towards the view held by Emery and Trist (1973, pp.204) that successful innovation and planning depend upon the "... recognition of a simple but fundamental truth: that planning is not so much a programme as a process. However technical many of its aspects may be, in underlying nature planning is a social process. Moreover, it is continuous. Phases of formulation, implementation, evaluation and modification succeed and interact with each other

without reaching a final limit. It is also participative. All those concerned must contribute in appropriate roles."

1.2 Curriculum Innovation

1.2.1 Objectivist Theoretical Tradition

Curriculum innovation is a very practical concern which can occur in a macroscopic form at national level and microscopically in the classroom, but there is growing up in relation to it a considerable theoretical literature. Reported work on innovation in education focused on planned change and looked for rational technical practical solutions adopting an objectivist theoretical approach. As in innovation theory generally there has also been a growing interest in the user, and interaction processes. Recent reports recognise that "teachers are the rock on which educational reforms founder." (Adams and Chen, 1981). Planned change tended to mean planned, centrally organised projects rather than "any new policy, syllabus, method or organisational change which is intended to improve teaching and learning". (Nisbet, 1975, p.1). In analysing the developments in the field this broad, open definition will be accepted. It will apply to whichever term is used: innovation, change, development or reform. The intention is not to make any distinctions between them. This definition also broadens the meaning beyond that assumed in some commentaries (Whiteside, 1978) which is that curriculum innovation is only concerned with the introduction of those educational practices loosely derived from progressive educational theories. It very usefully evades the problem of having to identify educational or political criteria by which to judge what

marks improvement in teaching and learning, by placing the emphasis on the intention of those implementing the change.

In the 60's and early 70's literature in the objectivist tradition was dominant in the educational change field. Prescriptive, systematic well planned development projects implemented with the help of change agents was seen as the way to bring about improvements in teaching and learning (Havelock, 1970; Hoyle, 1972; Carlson, et al. 1965). At the beginning those projects appeared to have considerable impact as they developed in an educational system and sub-systems which were highly supportive of attempts to bring about rational planned change. Yet some commentaries were beginning to appear from writers who were more sympathetic to solutions which drew attention to personal contacts and teachers' influences (House, 1974, C.E.R.I., 1973). But the dominant belief was expressed by Wheeler, (1973, p.138...) "the tendency of organisations is to maintain a steady state. The major impetus for change comes from outside rather than inside an organisation". Concern centred on how this impetus for change could best be researched, developed and diffused.

Theorising in the 60's and even the early 70's was mainly about types, strategies and models of innovation (Miles, 1965; Hoyle, 1972, 1973; Havelock, 1970, 1971; C.E.R.I., 1973). The dominant research paradigm at the time was functionalist and it was inevitable that organisational theorists should take an interest in innovation as an area of enquiry. The essential feature was the conviction that systems determined actions, not individuals, so research concentrated on identifying significant categories, structures and organisations in order better to understand the social world.

It was a time when curriculum entrepreneurs promoting large scale curriculum development projects were attempting to find the best approaches for improving learning and teaching by means of funded projects. The strengths and distinctiveness of different approaches to development: R.D. and D, social interaction, problem solving and linkage models were being considered seriously, as were the comparative virtues of different models of diffusion: 'centre-periphery, proliferation of centres and periphery-centre models (Havelock, 1971; Schon, 1971). The belief was that objective, planned solutions could be found to bring about desirable changes in the curriculum and what was needed were improvements in the structures for importing changes from outside which were teacher-proof and standardised.

What was also becoming evident at this time was that educational innovation promoted on this basis (i.e. concentration on development and diffusion procedures) following initial success was beginning to fail (Gross, et al. 1971; Shipman, 1974). Potential facilitators and barriers were being examined in attempts to explain the failure. Congenial climate (House, 1974) organisational health (Miles, 1965) and significant individuals such as head teachers (Hoyle and Bell, 1972; Nicholls, 1983) were identified as some factors which encouraged innovation. On the other hand, the diversity and complexity of the innovation process (Fullan, 1972; Smith and Keith, 1971), lack of relevant knowledge on the part of teachers (Nicholls, 1979) absence of change agents (Carlson, et al. 1965), autonomy of English Schools and teachers (Maclure, 1972), and demands on resources, material and time (Hoyle, 1972) appeared to be the main barriers. The most significant factor influencing innovation health began to emerge as the teacher (Fullan, 1972;

C.E.R.I., 1973; Hamilton, 1973; Hoyle, 1973). For a curriculum change to be successful it was necessary to bring about teacher change, and this was in many ways more difficult to achieve than setting up the right organisation, adopting an appropriate approach to development, working to a suitable model of diffusion adopting successful strategies, or effectively installing change agents.

These studies, like that of Shipman (1974) were not exclusively focused on what brought about teacher change. In setting out to discover the processes at work within a project which contributed to or detracted from its successful implementation they inevitably highlighted the crucial role of the teacher. The factors recognised as influencing the teacher's response to innovation have featured more persistently in the commentaries and studies of curriculum innovation over the last seven or eight years. Some of these factors are:

(a) teachers' motives (Walker et al., 1976);

(b) alienation by induction meetings (Gleeson, 1978);

(c) innovation acceptability (MacDonald and Walker, 1976);

(d) changes in teachers' objectives (Harding and Kelly, 1977);

(e) changes in teachers' values (Hoyle, 1973 and Fullan, 1972);

(f) changes in skills needed by teachers (Taylor and Walton, 1973; Gross et al., 1975);

(g) need for personal commitment (House, 1974);

(h) allowance for the artistry in teaching (Sockett and Harris, 1976);

(i) teachers' capacity for redefinition and goal-displacement (Hamilton, 1973);

(j) teacher autonomy (Hoyle and McCormick, 1976).

It must also be kept in mind that it is the teacher's perception of the innovation which is important, not just the teacher's response. Fullan (1972 p.5) draws attention to this, indicating five attributes of innovation as perceived by users which are correlated with the likelihood of successful adoption: relative advantage, compatibility, complexity, trialability, observability. The more recent literature looks in increasing detail at the interaction processes which influence the teacher's perception and evaluation of a curriculum innovation. Rudduck and Kelly (1976, p.98) conclude that there are "enormous problems involved in dissemination. Trends show that curriculum developers now realise the crucial role that teachers play in the process of innovation which is no longer as a passive recipient but as the focus". So the teacher or user system has latterly come to be recognised as being an important factor in the implementation of innovation, but as indicated in the C.E.R.I. (1973, p.579) analysis of case studies in educational innovation, "There is no history of teachers as change agents", which is possibly more true of teachers in the secondary than the primary sector.

1.2.2 Subjectivist Theoretical Developments

There was little evidence of writers or researchers working from an interpretative position and concentrating on the social processes instead of the social units and categories. In the early and middle 70's successful curriculum changes, resulting from organic development, were not defined and designated as curriculum innovation, and given the attention they merited. Few studies took an interest in how teachers engaged in the curriculum development process and responded to their interpretation of the situation which confronted them. One

interesting and insightful exception was Taylor's (1970) study of how teachers planned courses. Similarly, little is to be found at this time specifically in the curriculum development field, on how interpretations were made and changed, or meanings acquired and decisions made. An exception to some extent was House (1974, p.242) who advocated "...a commitment to organic rather than mechanical development..." and believed that "...normally if an innovation is to diffuse at all it must follow the social paths blazed by repeated personal contact".

This is looking upon the curriculum-as-practice, as opposed to curriculum-as-fact; a model which emphasises changing attitudes, skills and values (Young, 1975). From the practice perspective, desirable developments are those in the direction felt by individuals involved, whether teachers or children, to be profitable, and not what is thought right in terms of the needs of a universally, pre-determined structure of knowledge. The practice view of the curriculum is very closely related to the interpretative paradigm in the social sciences where interpretations and meanings, rather than the institutional role of the teachers involved in curriculm change, are the focus. When the curriculum is taken as practice, questions which were not previously tackled become legitimate and central for example:- how can the teacher's commitment to a change programme be maintained?

The concerns of research and commentaries on curriculum development emerging in the later 70's became more interactionist and interpretative. Walker and McDonald, (1976, p.18) identify "social negotiation rather than dissemination as the key social process of transmission". They also point out that the vocabularies of

action of innovators ought now to be "... increasingly concerned with idiosyncrasies of actions and events rather than with formalised interactions of roles and institutions."

From the analysis of case studies detailed information is being gathered on how changed behaviour in the teacher is encouraged. Whitehead (1980, p.20) lists some actions and activities which contribute:

"(a) teacher to teacher personal contact;
(b) financial incentives;
(c) avoidance of high expectations;
(d) school time teacher meetings;
(e) the attendance of teachers at meetings which are seen to have a practical utility."

Similar assertions, e.g. that teachers will remain committed to change they have initiated, or that the appointment of creative teachers will ensure continued interest in innovation programmes, are among the many processes which have not yet been investigated properly. The widening of interest over the last six or seven years from planning in order to achieve predetermined objectives, to include the processes as they occur and change, has mirrored a similar movement in research methodology. This shows a shift from predominantly positivistic to qualitative techniques, more suitable for investigating curriculum processes.

1.2.3 Methods of Enquiry in Curriculum Research

Pellegrin (Carlson, et al. (ed.) 1965, p.73) writing in the middle 60's about characteristics of research required in innovation, was of the opinion that the lion's share was at the

level of random observation and systematic exploration of broad fields or subjects, but the goal ought to be to conduct virtually all research at the level of testing well defined, but isolated hypotheses, and directed by systematic and integrated theory. By the end of the 60's Stake and Denny (1969, p.373) were not as confident and drew attention to similarities between evaluation as applied research and educational research, pointing out the special demands being made on the methods of enquiry and the different kind of rigour being demanded. The difference was clarified with Hamilton (1973) who made a distinction between experimental and illuminative research methods in studies in learning and saw the application of illuminative methodolgy from anthropology as being legitimately applicable not only to evaluation studies, but to certain other types of educational research.

Product can be separated from process evaluation and there are close similarities between process evaluation and illuminative research methods. This is a relationship analysed in great detail in the Safari project reports of the Centre for Applied Research in Education (C.A.R.E., 1974, 1977, 1979). Although the distinction between educational research and evaluation research is not altogether clear (Tawney, 1976, p.89), over the last ten years the more open evaluation methods have been increasingly used as research tools for investigating process questions. It is now possible with the techniques which are available and becoming increasingly acceptable to investigate traditional or 'ad hoc' styles of curriculum development as well as the systematic or 'heuristic' (Lawton, 1976). It is in theory now possible to investigate in an acceptable fashion any form of curriculum activity, even ideal types of Young's curriculum-as-practice. What should be kept in mind is the argument of Willower (1980),

that important developments are likely to come about because of the synthesis of methods not by the replacement of one with another.

Although research into curriculum process has become more interactionist and interpretative what has been done at the individual teacher level has been very limited. Yet it is here, in attempting to answer questions as to how teachers' feelings of autonomy might be sustained, that progress might be made.

1.2.4 Radical Structuralist Analysis

Anxiety to develop research methods which will enable curriculum-as-practice and other process developments to be evaluated is not shared by writers applying Marxist radical, structuralist theory to education and curriculum development. Their belief is that the individual interpretations and definitions of the teachers are not going to significantly alter the progress of curriculum development if the structural pressures are being applied in a different direction. There are very strict limits placed by the politico-economic system on the interpretations possible as a result of viewing the curriculum-as-practice. A number of commentaries indicate why it is not considered possible for schools to be agents of liberation:

(a) teachers and pupils are socialised into respect for existing social relations and restricted from taking control of their own worlds, by the manner in which 'good teachers' and 'being professional' are defined;

(b) the power of examination boards to define valid knowledge which sustains existing social hierarchies;

(c) the existing view of knowledge facilitates the presentation of the ideas of the ruling class as correct and absolute;

(d) that the values and beliefs such as conformity, knowing ones place, competitiveness, individual worth and deference to authority, are transmitted as the hidden curriculum.

(Gleeson, 1978; Whitty and Young, 1977; Young and Whitty, 1977; Grace, 1978; Eggleston and Gleeson, 1977; Apple, 1979).

1.2.5 School Based Curriculum Development

As the implementation rate of planned, centrally designed and developed curriculum projects is so disappointing on the one hand and interest in the contribution of teachers to change is increasing on the other, research and theory building is naturally turning to school based curriculum development and grassroots innovation (Gleeson, 1978). The belief motivating this shift is that theory alienated from practice is unproductive and the way to understand how teachers can be positively and successfully involved in planning is to study curriculum developments in which the teacher is already an established figure.

A number of problems present themselves. One is to decide when traditional, curriculum developments are at an adequate level to justify being considered as curriculum change and innovation. Elliot and Adelman (1976) attempt to avoid this by referring to these small scale operations as curriculum reform. This again demonstrates the drift which is occurring in curriculum innovation theory away from the large scale planned projects to school and classroom based considerations. A second problem which will arise with the move to school based curriculum development is in its implementation rather than its study. Skilbeck (1976, p.98)

points out that if teachers are really brought into developing the curriculum then the demands upon the profession might be greater than it can cope with. There is very little published research indicating whether or not this is a realistic fear. Skilbeck asks whether a teacher can be "... conceived as a change agent, diagnosing a situation, preparing objectives, designing schemes of work, devising implementation procedures, implementing and evaluating the effects of his treatment". There are clearly conditions of service and teacher training implications arising from this observation.

A third problem with which school based and grassroots innovation has to contend is the external examination system which is such an important conservative element in English education. The GCE and CSE examination requirements dominate traditional curriculum development in English secondary schools.

1.2.6 Influence of Examinations

How schools make decisions about the curriculum is not a simple process but it is generally accepted that it is very much influenced by expectations about examination papers. Although Ruddock and Kelly (1976, p.108) point out that examination systems have a dissemination function "... incentives that surround examination success provide a significant animation influence and the feedback of examiner's reports and moderators contribute to the re-education of teachers", but this tends to be within conservative parameters. Certainly the developing of a Mode III syllabus can theoretically lead to the start of a grass-roots reform movement. It is argued that it was devised as a structure for encouraging organic curriculum development, and

even for making it possible within an examination system for teachers to promote learning which was appropriate for their particularpupils in a curriculum-as-practice form. It was seen as being a revolutionary development which could change examinations from being a conservative to a radical force in education. Whitty (1976) on the other hand, in a report on some initial fieldwork for a research project into the social processes involved in the construction and examination of Mode III CSE and GCE syllabuses, casts doubts upon the extent to which these hopes can be regarded as justified. He found that Boards attempted to impose Mode I assessment criteria upon Mode III schemes in such a way as to destroy the effectiveness of this kind of curriculum development, that teachers found it less easy to escape from the constraints of Mode I than they had hoped, and the administrative procedure of the Boards seemed designed to hinder rather than assist curriculum development in schools. This tendency towards tighter control of the curriculum and resort to 'standards' appeared to be increasing following the Callaghan Great Debate. Strong ideological objections to examinations from theorists writing from the critical theory point of view included:-

(a) the examinations board invisible control of the curriculum because of their power of defining valid knowledge;
(b) the form of examinations dividing mental and physical labour;
(c) examinations encouraging separation and fragmentation of knowledge and thinking which alienate pupils and teachers;
(d) examinations encouraging the ideology of individualism;
(e) curriculum being treated as fact not practice;
(f) examinations giving support for those teachers who act as a conservative force.

(Whitty, 1976; Hextall and Sarup, 1977; Grace, 1978).

Examinations, particularly at 16+, have generated special interest in the last ten years, and since the publication of the Waddell Committee Report (1978), recommending the introduction of a common system of examining at 16+, this field has been considered a priority in the allocation of Schools Council research funds. The research in the area has ranged from a highly statistical focus on single issues like the reliability of essay questions in CSE and GCE examinations (Wilmott and Nuttall, 1975), to the more complex, intepretation in natural settings approach to the problem of assessment by teachers (Cohen and Deale, 1977). The research demonstrates how easy it is for confident judgements to be made when the broader issues are ignored, but also how it is not very helpful in the task of solving broad policy problems to offer only partial answers.

Much of the earlier research was aimed at reducing the anxiety about comparability of CSE and GCE and Mode I and Mode III examinations. In general the investigations indicated that greater differences in gradings were evident within the CSE and Mode III systems, but the differences were not sufficient to justify a greater faith in them when broader validity and operational problems were taken into consideration. Then many of the claims for the greater objectivity of GCE and Mode I procedures were seen to be dubious (Bloomfield, et al. 1977, Tattersall, 1983). Christie and Forrest (1981) identified the difficulty of successfully measuring comparability of standards in public examinations when the purpose of different subjects and examinations have never been properly defined. In addition the existing decentralised examination and curriculum development procedures made achieving and measuring comparability very difficult (Schools Council, 1979). This

debate has been accompanied by the consideration of the related issue of the request by the Government, following the publication of the Waddell Report, for the provision of national syllabus criteria, criteria-referenced grading and grade descriptions. Orr and Nuttall (1983) demonstrate, in a discussion paper on the topic, how these might not be as easy to formulate as some enthusiasts for accountability and comparability believe.

Some practical technicalities of examining were beginning to be looked at, but not in great detail, e.g. use of professional judgement in moderating examination (Tattersall, 1983), changing the emphasis from the examination of content to the examination of skills (Schools Council, 1979), Torrance (1982, p.53) reported that, "advice available to teachers considering school-based examining seems to be concerned with procedure, rather than process". The Waddell Report saw an increasing role for the teacher in the assessment system, but the investigations which recognised the complexity of examining tended to conclude that most teachers and moderators were not sufficiently skilful to deal with their new responsibilities (Smith, 1976; Hoste and Bloomfield, 1975; Cohen and Deale, 1977). Torrance (1982) reported that one Board, the Southern Regional Board, took this problem seriously and was systematically training teachers in assessment techniques in addition to training moderators and responding to individual enquiries. The conclusions of commentaries and investigations which indicate that there are considerable differences to be found in teacher assessments cannot be ignored (Wood, 1976).

Changes are occurring in the 16+ curriculum at the moment which will also bring about the need for changes in examination pro-

cedures. Extensive unemployment which is leading to the requirement to provide formal education for 17 year olds who are not able or prepared to cope with traditional curriculum models and examination procedures is encouraging changes (Broadfoot, 1982). The implementation of the Munn and Dunning recommendations in Scotland, proposals in the Hargreaves Report, development of CPVE and TVEI, the influence of TEC, BEC and the FEU are bringing about similar developments. Courses are required to be seen to be relevant, there is a demand for core courses of basic skills, also modular courses with clear examinable objectives and unit credits, and considerable interest is growing for some form of profiling certification. All of these developments in one way or another require greater use of teacher based internal assessment procedures. (Hargreaves, 1984; Brockington, et al., 1983; Joint Board for Pre-vocational Education, 1984; FEU, 1982(a); FEU, 1982(b); Department of Education and Science, 1983).

1.2.7 Social Interaction Focus of Curriculum Innovation Theory

Increasing attention is being paid to the issue of maintaining the commitment of teachers. Organic models of curriculum development are being promoted where changes are supported by groups in close contact with the innovation and then by a widening circle of believers and practitioners. House, (1974, p.55), refers to this approach as advocacy, recognising that with the right quality of group support an innovation will progress to fulfilment and become institutionalised. This model also accepts that the innovation might not be of permanent benefit and the advocates might have to fight against subsequent changes that might threaten the original idea and possibly supersede it. Similarly Walker and MacDonald, (1976, p.18) indicate a shift away from a

view of innovations as being disseminated outwards from the centre to classroom and losing clarity and quality in the process. The move is towards negotiation where the teacher is actively involved in trade-off and exchange, creating new vulnerabilities, new alliances and new view of what is possible. This model recognises the potential of school and classroom based curriculum development to become a genuine grassroots innovation with the power to extend far beyond its place of origins and be part of a process of continuous change.

There appears to have been a very close interplay and congruence of practical developments and available theory in the promotion of curriculum innovation. Early interests in practical curriculum development emphasised the organisation of curriculum development at a time when functionalist, organisational theory and positivistic methodology dominated the theoretical field. Practical interests focused on the contributions of the teachers involved as interactionist when interpretative theory and methodolgy became more accessible. Radical structuralist analysis is now being turned onto curriculum development which highlights the potential of structural constraints to thwart individualism but this is, as yet, not an issue which has been clearly identified in practical curriculum developments. Interest in innovation is moving along the continuum from the product to the process end and from curriculum-as-fact to the curriculum-as-practice.

This movement is seen in the issues currently being considered: school based and classroom based innovations, exploration of the crucial role of the teachers and the need to recognise the realities of their world as they see it. The focus has shifted from how innovation is planned, organised and implemented to

social interaction with the user system or more specifically how the interaction processes maintain teacher commitment and bring about teacher change. The general definition of the concept commitment is being accepted for the purposes of this study as it appears to be unnecessary to make fine distinctions between interpretations considered important by some researchers. (Woods, 1981, p.291). The theory and practice considerations are now broader and receiving more eclectic treatment.

1.3 Curriculum Innovation in Physical Education

1.3.1 The Physical Education Curriculum

The physical education curriculum in English secondary schools is defined and interpreted by the teachers in the schools with the assistance or intervention in some localities of local authority advisers. In the 1960's the content was practically based on a balance of games, swimming, athletics and gymnastics with some dance for girls. Theory was only rarely taught explicitly and in small amounts. A particular range of aims and objectives outlined by Andrews (1971) are associated with physical education: development of cognitive skills and knowledge; aesthetic education; moral education; development of social relationships; education for leisure and physical fitness and general health. Disagreement as to the relative level of importance of the different aims did exist but the debate did not appear to be particularly important.

In the 1970's a great deal of attention was focussed on the objectives debate, and support for health and fitness, particularly for boys, began to gain more prominence than the

others (Gibbon, 1975, Barrow, 1976). In contrast to most other secondary school subjects the curriculum and definitions of knowledge were not determined by examination boards. Teachers could make their own choices but a number of agencies: the Inspectorate; professional associations; the training institutions, determined the general parameters within which these choices could be made. Curriculum renewal has been taking place in physical education but the process has mainly brought about an updating of traditional content rather than producing new content and methods. The exception has been the growth of 'outdoor pursuits' and 'movement education' (Lockwood, 1978).

The underlying dialogue which appears to influence all physical education curriculum issues is between those teachers who concentrate upon achievement and those emphasising experience: the familiar distinction between curriculum-as-fact and curriculum-as-practice. The most important difference is not between what is taught, but why it is taught. Enthusiasm for school team success, highly competitive activities, concern for pre-determined, external standards indicates a physical education programme which is fact orientated. In contrast an emphasis upon activities which allow the pursuit of individual progress, recognition of relative achievement and concern for standards arrived at from an internal appreciation of excellence identifies a physical education programme as being practice dominated. . This distinction between achievement and experience never appears to lose its relevance in analysing the work being done in schools. It is a very complex bi-polar construct and all programmes cannot be categorized as being at one extreme, neither are they always mutually exclusive, as some

teachers appear to have the capacity to demonstrate concern for providing experience within a programme which is incidentally achieving high external standards. This possibly comes about because some teachers see education as having a relative or compensatory influence rather than clear, pre-determined, universal objectives, so achievement of external standards is at some times and in certain circumstances an important ingredient in an experience orientated programme.

A simplified definition of curriculum-as-achievement would be a physical education programme which emphasises concern for pre-determined external standards, e.g. school team success, competitive activities and awards from national bodies. Curriculum-as-experience would be seen as emphasising concern for individual progress and relative achievement, that is child centredness.

The opportunities for physical education teachers to develop their teaching and curriculum on practice or experience principles should be greater than for other areas of school work. Not seen as a vocational necessity and free of examination expectations, there is less institutional and societal pressure than for most subjects. Teachers can pursue developments which they feel to be desirable and profitable and consider to be right for the situation and time, rather than what complies with principles related to a universally accepted, pre-determined structure of the subject. This ought to allow the teacher of physical education the freedom to pursue the rewards of teaching and learning without too much conservative pressure to conform to a tradition. This is an idealistic view of the autonomy of the physical education teacher who is often limited by the expectations of the head-teacher. The result has been for a diversity of programmes to

appear in schools, but only within clearly defined boundaries. The main tendency was to work for standards in terms of good team results, particularly with boys' physical education. The alternative was to implement an anti-elitist child centred programme which was found mainly in girls' schools and built on movement education. In some instances neither head teachers nor the physical education teacher were too concerned with what content should be provided and built the programme round what the pupils found enjoyable and would accept, which often turned out to be no more than easy options and recreative rather than educational. A few took advantage of the freedom and experimented with outdoor pursuits, dance and combined arts, community recreation, or theoretically based health and fitness programmes.

1.3.2 Curriculum Development in Physical Education

In the 1960's and early 70's there was a general educational climate which encouraged the development of new policies and experimentation with methods. The feeling was that improvements in teaching and learning could be fairly easily achieved. This optimism was supported by the ascendance of progressive, child centred beliefs. In physical education it was mainly manifest in developments in educational gymnastics and dance. This was promoted by the Inspectorate and in certain localities by local authority advisers, but it centred on primary education. There were some related developments particularly in girls' secondary schools. In the boys' and girls' schools there was some breaking away from the traditional mould of the games afternoons for a full year group, which made it possible for new patterns of teaching to be established. These included games coaching instead of house competitions, outdoor pursuits and Duke

of Edinburgh Award activities, as well as the promotion of movement education. These were not general developments across all secondary schools, but occurred in particular schools and localities. The determining factors being head teachers, local authority advisers and above all the physical education teacher in the specific school. There were no national, planned developments.

The predominant curriculum development model that was emerging for most subjects at this time was centre-peripheral planning adopting an R.D. and D approach. It was the era when planned, funded change on a national basis promoted by project change agents was considered to be the only way of achieving successful curriculum innovation. Physical educationists recognised this trend and attempted to win Schools Council support and funding. Although coming into the field later than other subjects, a grant of £8,000 was awarded to investigate present trends in schools and an investigation was conducted in 1970-71 and was reported by Kane (1974). This was seen as being a preparatory study for a major development project. Following this survey a number of organisations and institutions, including the research team responsible for the survey, submitted research and development project proposals. All of them advocated R.D. and D approaches, empirical/rational strategies and centre-periphery diffusion models (Bayman, 1980). They were all intended to catch the tide which appeared to be running favourably for innovation, curriculum entrepreneurs and a rational, technical ideology. They all related to current educational theories, which provided support for rational curriculum planning, the search for universal aims, objectives and definition of the subject of physical education, and an

objectivist, planned interventionist approach to curriculum change. An example which was looked upon with great reverence as it was constructed on these principles was the Battle Creek project in the United States (Vogel, et al. 1970), which set out to provide organisational, standardised teacher proof solutions to physical education teaching problems. The physical education profession in this country was late coming to accept that there were other paradigms of curriculum theory, research, change and planning. The first signs in the literature that this had been recognised was an article by Almond (1978).

Some curriculum research was taking place in the field at the time which recognised the influence of the user and the importance of the interaction process (Ward and Hardman, 1978). This work was reported as an alternative approach at a number of conferences in 1971 where Kane and Layson were describing the Schools Council Study. The concern of this investigation was how teachers engaged in curriculum development of an unplanned traditional type, and took individual rather than collective action. This research pointed to the importance of taking into consideration how teachers' interpretations were made and changed in terms of the curriculum issues being defined, evaluated and decided upon. It appeared to be unrealistic to rely totally on mechanistic, objectivist planning when teachers' values had such an important influence on programme development.

Centre organised, planned innovation in physical education did not take place, as following the initial survey no funding was made available for an adoption and diffusion project. It might have been that the support for rational, planned innovation

generally was waning and there was nothing in the physical education proposals which indicated an awareness of its limitations as was shown with Geography 14 to 18 (Hickman et al. 1973), or that subject specific factors were operating which indicated that the time was not right to pursue these objectives in this particular subject. The Schools Council priorieties, as a result of the standards and basics movements following the Callaghan Great Debate, also began to change in the 70's away from making grants available for curriculum development to evaluation, accountability and examinations projects, whether the roles of teachers of physical education could be changed sufficiently and their diverse value systems accommodated sufficiently to implement a national project was therefore never tested. Interests in physical education followed the general trend and turned to the role of evaluation and testing of physical education programmes and lessons (Andrews, 1976, Carroll, 1976, Evans, 1971) and more slowly to encouraging school-based innovation.

1.3.3 Curriculum, Role Change and Innovation Considerations in School Based Innovation.

Although unsuccessful in promoting planned, centralized innovation in physical education, implementing classroom and school-based innovation has been more successful. Significant individuals find arenas and opportunities to develop their work. There could be something in the organisation of the subject, or people involved, which brings about change by releasing and fostering growth in persons who make up the system. This occurs through social negotiation (Walker and MacDonald, 1976) or advocacy (House, 1974), rather than transmission. The most interesting questions concern not how curriculum change is brought about by

central planning and implementing pre-determined objectives, but what processes were operating when this social negotiation and advocacy were successful in enabling innovation to grow from the classroom. How teachers perceive and evaluate innovation is an important starting point. How local authority advisers, acting as change agents, attempt to bring about teacher change and maintain commitment to innovations are also issues which are relatively unexplored. Physical education advisers appear to operate according to two innovation strategies, some initiate and dominate whilst others facilitate problem solving approaches to curriculum planning in teacher groups. Although there is no clear evidence yet that general change has been initiated by individual school or area initiatives they have been sufficiently successful and numerous to make them worthwhile as objects of study and to enable significant processes to be identified.

If it is possible to look at physical education as a unitary institution then in terms of curriculum change the proliferation of centres form is being implemented without having experienced centre-periphery organisation, yet to some degree changes in the school system are taking place. In fact some change is taking place without any significant contributions of centres at all. In one development at least the impetus for change, the initiation and implementation has come not even from the local authority advisers, but from the teachers themselves.

1.4 'Grassroots' Curriculum Innovation in Physical Education: C S E Mode III Examinations

1.4.1 Institutional Opposition to Examinations in Physical Education

A recent innovation is the development of physical education as a Mode III C S E subject. It represents a quite substantial movement away from the traditional curriculum. It is a good example of knowledge being created and defined differently and its social construction is worth examining. The role of the physical education teacher had to be adapted significantly and the social interaction processes involved are of considerable interest. Teachers themselves were responsible for its initiation and development and it is an outstanding pure form of grassroots or classroom innovation. To begin with there was almost total opposition from institutions and bodies influential in forming physical education opinion, policy and practice, but there are now signs that examinations in physical education could be adopted as standard practice. There was not even proliferation of centres, no planning or even advance debate of any significance and to begin with no guidance from change agents in any form. Up to this point questions normally asked about innovation, what form of change strategies, approaches to development or models of diffusion have been adopted, have had no relevance. The only questions of any importance to begin with were those relating to responses of the teacher.

The implementation of the C S E examination system was itself seen by many educators as undesirable. The arguments are clearly set out in the Beloe Report (1960) and mainly rest upon the view that examinations corrupt education by diverting attention away

from the process to the product, and that the curriculum conceived as fact is educationally less desirable than one developed on practice principles. Although this argument was ignored for subjects generally, mainly because a proliferation of examinations already existed, it was not ignored for physical education and the new examination system which was developed for children above the 40th percentile. From the start the place of physical education in the new system was considered and found to be inappropriate. In a very early publication, the first examinations bulletin, the Secondary School Examinations Council (1963, pp. 73-74) made a statement on examinations in physical education, and argues very strongly against their inclusion. The statement sets out very clearly support for the principle of curriculum-as-practice as well as the examination method problems inherent in the subject.

There followed a growing literature on the issue in professional physical education journals. An early contribution was by Stokehill (1966) giving a proposed syllabus, but the majority of contributions that followed until 1977 were antagonistic. Early contributions adopting this position, which were significant because they were being made by individuals of eminence in the field, were Oliver (1969) and Munrow (1972). The main concern of most of the writers was for protecting the autonomy of the subject and the freedom of the teachers to concentrate upon experience and not achievement, which was similar to the position taken up by the original statement of the Secondary Schools Examination Council. "One of the few remaining school experiences that pupils can enjoy and value for its own sake" (Grant, 1974), "narrowing opportunities for individual growth and development" (Evans, 1976), are examples of the antagonistic arguments.

Despite this some examination schemes were implemented by individual Boards and the Schools Council Physical Education Committee reviewed the situation in an Occasional Bulletin (Schools Council, 1977) which recognised the growing enthusiasm in some quarters for the inclusion of physical education in an examination system and concluded, "...therefore the committee recommends withdrawal of general opposition to the idea of examinations and other forms of assessment". This was not positive support as the committee was convinced that neither the teaching profession nor the examining boards would wish to implement a large scale programme of examinations, although most examination boards had already accepted physical education examination proposals from individual teachers and some group schemes. The arguments which had brought about this change were those claiming the need to give recognition to pupils who show an aptitude in physical education, that the challenge of an examination would provide added purpose and stimulate greater interest and enjoyment, and that a yardstick would be provided by which the effectiveness of the teaching of physical education might be measured. Yet, despite this reluctant approval of an experimental approach to examinations in the subject, the arguments expressed in the literature by influential individuals in the profession continued to indicate opposition on grounds identified with a practice or experience view of the physical education curriculum: "no examination system has been yet devised that does not achieve standards at the expense of those children who fail to reach those standards" (Woolam, 1978); "I see formal examinations as being concerned with education of the physical not through the physical" (Alderson, 1978). There were other similar arguments like that expressed by the representative of an examination board who pointed out that G C E Boards had

not shown any interest in physical education because of the disagreement over the nature of the subject and the indications that it was not a unified integrated body of knowledge and skills (Francis, 1981). There also remain considerable objections from teachers in schools to involvement in an examination system as shown by a survey of over 400 teachers by Carroll and MacDonald (1981). Despite the original outright antagonism and continuing reluctance to give positive support to the development by the profession, individual teachers, and now more frequently groups of teachers, were submitting examination schemes.

1.4.2 Rapid Growth of Mode III Schemes

Taking into account the reluctance of the profession and the examination boards to make the implementation of examinations easy the growth of the innovation has been quite rapid. Metcalfe (1978, p.25) reported that, "Between 1968 and 1970 there were approximately thirty-seven validated Mode III syllabuses in physical education or a related area". The survey for the Schools Council Report in 1977 (Schools Council, 1977, pp. 35-37) indicated that the first examinations took place in 1968 in the Southern Region Examinations Board. The most up to date report incorporating the above surveys with one specifically commissioned to obtain accurate information is that conducted by Carroll for the Schools Council (Schools Council, 1982, pp. 20-21) which showed that the 341 approved syllabuses in physical education and related areas in 1976 had increased to 533 by 1978 and 605 by 1980. The more reliable figure of number of schools examined was 547 for 1978 and 592 in 1979. These figures include the 6 Mode I schemes which have been implemented. The first Mode I syllabus was approved by the Southern Regional Board. Carroll

draws attention to the Mode I development (1982, p.27), where in the first year of introducing a Mode I examination in physical education in 3 regions, approximately 50 schools in each region entered candidates. This indicates the potential for very rapid growth. Another development was that reported by Close (1975) of a number of schools coming together to submit a group scheme. There is evidence that this arrangement is being adopted in a number of areas other than Stoke-on-Trent which was reported by Close (Armstrong, 1976; Maydew, 1975). Only one of the 14 regional boards do not have schemes. Although the growth in schemes submitted and pupils examined has steadily increased there is evidence that many teachers have implemented a course then found difficulties and developments which have made it necessary or desirable to discontinue the programme. A number of reasons for this are set out by Playford (1981). The indicators are that despite some problems the growth of examination schemes has been rapid and quite considerable.

There are reports in the professional literature which provide insights into the reasons for this growth, e.g. during the un-planned growth and development phase a number of articles appeared mainly from teachers already involved in implementing schemes setting out the advantages which were to be gained from examining physical education. None were written by established leaders in the field. The arguments indicated the interests of physical educationists more in the achievement rather than the experience traditions of the subjects. Knowledge 'that' as well as 'how' of physical activities was seen as being important for itself not simply because it is more easily examinable. Greater status and resources were seen as accruing to the subject when an end product in terms of formal achievement of the pupils and therefore accountability of the teachers could be clearly

demonstrated. Developments in examination methods which allowed subjective evaluation and assessment had taken place and consequently the threat of Mode III examination requirements dictating the content and methods of teaching the subject no longer appeared to exist. The achievement of those who are successful in physical education should be formally recognised which might then become not only a reward for endeavour but a source of motivation. These are recurring arguments which are scattered through the literature (Close and Gott, 1976; Chappell, 1978; Palmer, 1978; Wallis, 1978; Yelling, 1978) and are summarised in the second Schools Council review statement on examinations in physical education (Schools Council, 1977, p.16). Perhaps the most worthy but not influential argument expressed at the time was that which pointed to the curriculum development function and possibilities which were present when teachers introduced a Mode III examination scheme (Duff, 1977, Dove, 1977). Whatever the relative merits or ideological bases of the arguments might be the evidence showed that changes in the physical education curriculum of 4th and 5th years in secondary schools had been initiated and to some degree implemented.

1.4.3 Curriculum Change in Mode III Schemes

Major changes have been brought about in the content, time allocation and teacher's role which are sufficient to justify classifying it as an innovation. These changes are set out by Carroll (1982) drawing from the thorough and extensive questionnaire surveys which he carried out for the Schools Council. He points to the manner in which the subject has been broadened to include a theoretical component which in most schemes is somewhere between 40% and 60% of the work and examination weighting of the course. This content can include knowledge of games and

sports, anatomy and physiology, health and hygiene, first aid, social and leisure aspects, historical tests and measurements, skill acquisition, comparative physical education, movement in life and statistics. The practical remains similar but there appears to be more teaching and depth of coverage. This is made possible because time-table allocation in most cases is increased by about 50%.

Many submissions did not include the title physical education, presumably with the intention of identifying a course or subject area which should not be confused with physical education as it was defined and interpreted currently in schools and the world at large. They included those for which attempts have been made to establish separate identities in higher as well as secondary education: human movement studies, dance, outdoor pursuits, leisure pursuits and outdoor education. A pattern is developing across the examination boards to separate physical education, dance and outdoor pursuits into distinct subject areas. The number of other titles which have not acquired this distinctiveness indicates the range of integrated subjects which were being introduced: modern educational dance, sport, health and society, sea studies, science of living, creative movement and music, art of movement, science/mathematics/human movement studies, environmental studies and outdoor pursuits, local studies and outdoor pursuits, sport and recreation. The third Schools Council Bulletin reports, "The Schools Council Bulletin (1977) shows that there has been a proliferation of titles for syllabuses in the areas of physical education, human movement, dance, recreation and sport. More recently there has been a tendency for some examination boards to 'tighten up' on the titles for Mode III" (Schools Council, 1982, p.18).

When setting up a Joint Working Party of all the G C E and C S E examination boards to develop national criteria for the proposed National Certificate of Secondary Education at 16+, the Secretaries of State included the following statement on the designation of subjects in their instructions to the Joint Working Party: "The Secretaries of State will also expect examining groups to limit the number of subjects for which certificates are awarded. They recognise the value of involving teachers in the design of syllabuses and in the process of assessment, wish to encourage this partnership under the new system, and look to examining groups to develop appropriate syllabuses to cover important new topics in the secondary curriculum. But it is not in the interests of pupils to encourage the creation of a new examination subject or to permit the continuation of some of those available under the present system simply because they engage the interest of the school or group of schools. A wholly permissive approach to the number of subjects to be examined is undesirable for a number of reasons. It may encourage schools to give undue prominence to examinations which have little or no value as qualifications for employment; it increases the risk that some pupils will be asked to work at an excessive number of subjects; and it puts unnecessary constraints on parts of the secondary school curriculum which do not lend themselves to external assessment. The Secretaries of State are asking the Joint Council to draft general criteria for syllabuses which will maintain an appropriate balance between these considerations". The title chosen might determine what is acceptable content under these terms.

The title of the subject and how it is being defined is also important as it indicates whether the knowledge is being defined

in a positivistic or relativistic way. If positivistic or objectivist then once it has emerged the definition will determine the nature of that knowledge for ever and physical education will have absolute and permanent meaning. The relativist or subjectivist approach allows for re-negotiation and re-definition as the individuals and the particular culture in which they live determine what should be counted as physical education, and is consequently less constraining. This subjectivist position is best represented by the Berger and Luckmann (1967) thesis that knowledge or reality is socially constructed.

The role change for the teacher includes becoming an assessor of the pupils in both theoretical and practical aspects of physical education when physical education becomes an examination subject. The teacher is expected to become knowledgeable in setting and marking end of course unseen examinations, course work and special studies, as well as conducting assessments or examinations of techniques, skills and total performance in games along formal systematic lines, a major incidental change has therefore been to pull P.E. teacher's repertoire of skills closer to those of other subject teachers.

The skills which the teacher of physical education has had to develop to meet the changing role demands of implementing an examination course as well as classroom teaching includes planning and assessment skills which entail presenting detailed, explicit schemes of work and writing of examination papers (Playford, 1981, p.34). How much these teacher changes feel right to the teachers involved and how much it is working against maintaining user commitment it is impossible to say as what research has been done in this field has not been conducted in a way that could answer

these particular questions satisfactorily. This research is needed as important implications for the training of physical education teachers are involved.

1.4.4. Institutionalization of Examinations

Although reservations still exist at all levels in the profession and some schemes have been discontinued because they 'don't work' for the pupils, or teachers cannot adapt themselves to the new roles, there are signs that examinations in physical education will become the expected pattern not the exception. What started as the unconnected and unco-ordinated initiative of individual teachers could become the basis of a national scheme. The national debate following the Callaghan Ruskin lecture focused upon ensuring standards on a basic core curriculum. Physical education has been accepted as an element of that proposed core curriculum (Department of Education and Science 1980). The parallel debate on the setting up of a single system of examining at 16+ has to some extent recognised the role physical education might play in secondary education examination schemes. The subject has been included in those for which the Schools Council has set up working parties to determine national criteria for examination syllabuses at 16+. Nine members of the Physical Eduation 16+ Sub-Committee also served on the Schools Council Working Party on Examination in Physical Eduation and Related Areas and produced a bulletin in Spring, 1982, reviewing developments in C.S.E. courses. They concluded that physical education should have a place in the new examination system. On the other hand physical education was not included in the first list of 20 subjects for which national criteria were to be drawn up by the Joint Council of all the examination boards set up by the Secretaries of State.

In Scotland the Munn report on the Structure of the Curriculum (Munn Committee Report, 1977) saw physical education as being part of the compulsory core programme, but the Dunning Committee Report (1977) recommended a different approach to assessment from that being considered by the Schools Council. It proposed that core activities like physical education should not be assessed, but the single national certificate, The Certificate of Education - Scotland, could be endorsed to show that the physical education course had been completed satisfactorily and that schools should make their own assessment of pupils. The emerging English and Scottish proposals, as so far reported, are adopting totally different positions on examinations and presumably the influence of examinations upon the curriculum.

The three Schools Council bulletins on examinations in physical education are good signposts of the phases in the developments in thinking about examinations in physical education in this country. The first bulletin (Secondary Schools Examination Council, 1963) which argued against examinations in the subject was followed by the phase of user initiative and autonomy. The teachers initiated the innovation and the professional leaders and the Boards interfered only minimally. The second bulletin (Schools Council, 1977), giivng qualified support for an experimental approach to be adopted, coincided with a fairly rapid increase in the number of schemes being examined and the build up of the basics and standards debate on schooling generally. This introduced a phase of growing constraint on user development. The third and most recent bulletin supporting the implementation of an examination appears to be inaugurating a phase of system standardization. This report, which is considerably more supportive of the examination movement than the two previous bulletins, does

not, as with the earlier bulletins, express reservations that the needs of the pupils will not remain paramount and there will be a general loss of teacher commitment, but moves towards a curriculum-as-fact stance emphasizing standardization. The conclusion states, "...that after several years of experimenting with syllabuses and discussing curriculum, we must agree on (a) objectives and aims, (b) a common core of experience and (c) acceptable methods of assessment and grading" (p.49).

Carroll in a paper based on his research conducted for the Schools Council Working Party which produced this report makes these standardization issues much clearer (1982). He says of the establishment of Mode I "This has meant the establishment of Mode I panels of teachers for P.E. in those regions, standardized schemes with greater control of content and assessment by the boards through their panels, and possibly greater status for the subject" (p.27). Commenting on changes in the teachers role he points out that, "P.E. teachers may have to be less 'close' in their relationship to some pupils to be more objective" (p.31) and "Other subject teachers have often envied the P.E. teacher's freedom from examinations, and P.E. teachers will have to accept a certain amount of restriction and examination pressures. P.E. may well lose some of its spontaneity and enjoyment at the examination level" (p.34). These three phases of development (a) user initiative and autonomy; (b) growing constraint on user development; (c) system standardization, may well have more general application in curriculum innovation theory. With physical education it might be due to the growth in number of schemes now drawing more careful scrutiny from the Boards and profession, or a general tightening up of Mode III schemes which Whitty argues has come about as a result of the basics and

standards debate (Whitty, 1978 and Torrance, 1982) because of national criteria being developed for the single system of examining at 16+.

Marxist theorists who emphasise the importance of the influence of the politico-economic system on education would find nothing unexpected in this shift from user autonomy to system standardization..(Whitty, 1976, Apple, 1979). They would claim that the system would be threatened by physical education being seen to be successfully pursuing policies and practices determined by what is felt to be right by the individuals involved at the expense of existing social relations in society. If examinations in physical education were developed in a way which was more flexible then the example might be followed by other subjects and an important tool of an ideological state apparatus would lose some of its power to coerce teachers and pupils into existing social relations. Were examinations in physical education to be developed along the line proposed in the Dunning Report (1977), i.e. limited to internal assessment, then this could be a step towards the breaking down of the external examination system at 16+ and replacement by school profiles. What this institutionalization of grassroots curriculum innovation indicates, it would be claimed, is the power of the politico-economic system to impose control, sustain existing hierarchies and power relations and protect the hidden curriculum of individualism and competitiveness. Physical educationalists who have previously enjoyed freedom to indulge in spontaneous innovation have, by exploring the possibilities of examinations in the subject, allowed curriculum control to be imposed in a way which might prevent this freedom ever being exercised again. If examination expectations follow the existing pattern for other subjects then

teachers in schools will never again have the freedom or time to pursue new lines of developments as they did with Mode III examinations.

1.4.5 Opportunities for Subjectivist Research into Examinations in Physical Education

There has been very little research into examinations in physical education and with few exceptions the published material which has been drawn on in this review of the field is speculation by significant individuals in the profession or teachers reporting their own experience in implementing courses. The main exception to this are the questionnaire surveys conducted by Carroll for the Schools Council, but these are in the objectivist traditions of curriculum development and research. There are a number of questions arising which might be better answered from data collected by methods based on more subjectivist theory and traditions. These questions arise in the general areas of innovation, role change and curriculum.

2.0 Modified Subjectivist Research Design and Methods

2.1 The Relevance of Subjectivist Theory to the Study of Teacher Responses

The central interest in this investigation is the role of the teacher in innovation. This focus prompts a particular range of questions which, from the evidence of the literature, cluster in three theoretical areas: innovation, role change and curriculum.

The issues which generate these questions relating to innovation in this context are:

(a) its unplanned, grassroots nature;
(b) social process barriers and facilitators;
(c) the role of advocacy and negotiation;
(d) user autonomy and system standardization;
(e) relevance of process theory.

The issues concerning role change are:

(a) the way teachers make definitions, interpretations, evaluations and decisions in relation to their new role as the teacher of an examination subject;
(b) maintaining teacher commitment;
(c) the significance of teacher autonomy;
(d) role of training;
(e) extension of skills.

The curriculum issues are:

(a) curriculum-as-practice and curriculum-as-fact, and experience or achievement;

(b) role of external examinations as a conservative force in maintaining existing social relations;

(c) the construction of new physical education knowledge.

These questions and issues have emerged because of the emphasis placed on the teacher in the analysis of the literature. A shared thread of subjectivist theory can be seen to run through these issues. The common strands on which this theory focuses are the four processes of dialectic, change, interaction and inter-subjectivity, and the construction of participants meanings and actions. It appears therefore for this investigation in this area at this time that subjectivist theory is a more appropriate and unifying tool of analysis and investigation than its objectivist counterpart.

From a general overview of the literature particularly Blumer (1972), Berger and Luckmann (1967), Young (1971), Giddens (1976) and Reynolds and Sullivan (1980) these four processes whether in relation to innovation, role or curriculum, lend themselves to analysis in terms of the participant's perceptions, interpretations, definitions, negotiations and accommodations followed by some degree of objectification. There could be some debate over the last step of objectification but subjectivist theorists like Berger and Luckmann (1967) who do not take up extreme positions find no difficulty in accepting the concept. It indicates a move towards a modified subjectivist position in avoiding accepting totally the individual definition of the situation explanation. This six step activity, which might be described as the sub-process of negotiation, can be seen as being the common building block of subjectivist theory.

The subjectivist interest in the four processes dialectic, change, interaction and participants actions emphasises the importance of subjective interpretations, meanings and relativity which present difficulties for precise definition of typifications and accurate measurement to take place. Even adopting a modified subjectivist position does not change this situation very much, consequently determining causal relationships, verifying hypotheses and establishing universal laws is not an ambition of the project. Useful discoveries can be made by identifying underlying patterns which Wilson (1970, p.704) calls documentary interpretations and for which different canons of objectivity should apply. This interpretative activity is not seen as setting up a conflicting paradigm to positivism which is committed to establishing causality and verifying hypotheses, but as being complementary and, as Willower (1980) points out, is another way of engaging in the scientific process of testing, exploring and testing. The testing procedures are necessarily more flexible and qualitative. The subjectivist argument that reality is socially constructed can be seen to be applicable to research methods and it should be expected that man will define what are acceptable standards of evidence, proof and truth. This will not be in accordance with some predetermined standards embodied as a universal law, but what is required with a particular situation and problem. The criteria of proof for establishing knowledge which is in some senses universal and objective might eventually emerge, but it will have to be a more sophisticated explanation than positivistic theory offers at the moment. Scholars need to apply themselves more to the problem and come forward with a much less simplistic solution.

2.2 A Modified Subjectivist Theory of Education and Research

It is a generally accepted academic principle that where possible fragmentation and separation should be avoided. Hextall and Sarup (1977) using Marxist arguments and Elliott (1980) set out the current educational justification for maintaining integrated internal relations and identifying the connections between theory, practice and research.

The orientation of this investigation, and consequently the theory of education associated with it, is not excessively subjectivist, but the possibility for change and dialectic has to be incorporated. Within education different times call for different solutions and countervailing pressures have to be operated. Consideration for the interests of the individuals should prevail, but at some moments in particular situations the needs of society have to be recognised before those of individuals. The tendency with our society is for the education system to work the other way round and for there to be a reluctance to give proper recognition to the needs of the individual. This is a modified subjectivist theory of education, a new concept, which might be suitably labelled subjective pragmatism.

As has been indicated it is also necessary to establish integrated, internal relationships between the theoretical orientation of the study and the research methods adopted. Extreme positions of determinism and objectification, associated with positivistic methods would not connect appropriately with the theory and subject so far described, neither would extreme subjectivism limited to descriptions and accounts be relevant. The most appropriate position in the middle ground would possibly be best

established by a combination of the critical discussion principles of Karl Popper (1968, 1972) and the continuous comparison approach of Glaser and Strauss (1968). This is taking a similar view of Popper as that described by Tilley (1980) which locates him not as a staunch defender of crude positivism, but occupying the middle ground and quite acceptable to ethnomethodological thinking. Taken alone, neither quite fill the modified subjectivist position identified as being appropriate for this investigation.

There are a number of similarities between critical discussion and continuous comparison. The most important being the concern for generating theories rather than engaging in verification. In both cases change is seen as being intrinsic not working towards some fixed and final solution. Popper's (1972, p.164) approach is through the continuous development of problem solving:- starting with a problem (P1), offering a tentative theory (TT), going on to error elimination (EE) which then identifies the new problem (P2), from where the whole system can start all over again.

Similarly Glaser and Strauss (1968 p.9) claim to have a process view of theory which is ever developing and never perfected. The implication of this is that a research method which relies on single stage testing would not be acceptable. Opportunites must be allowed for progressive discovery and continual inter-meshing of data collection and analysis. Popper's method of solving problems by making conjectures followed by refutations is similar to Glaser and Strauss's continuous comparison of conceptual categories and typologies identified from the data being collected. It is a dialectic of continuous comparison, discussion and refinement which enables clearer and richer concepts and theories to emerge and be tested for coherence and competing explanations.

The first impression of the Popper epistemology is that the basic idea of third world objects being distilled from a common sense view of the world represents an objectivist point of view. On closer inspection it is very little different from Berger and Luckmann's theory of the social construction of reality, where objective reality is distilled from the individual, subjective reality. Popper's (1968, p.27) third world objective knowledge, is a product of human activity. The physical world needs to be worked on, or mediated, by the mental world for it to be possible for ideas and theories to emerge as third world objective knowledge. The issue of objective knowledge is not explicit in the work of Glaser and Strauss, but the nature of the theory building process described and the use made of individual's accounts, interpretations and meanings in the task of refining typologies and concepts is sufficient implicit evidence of the same concern for individuals mental activities and the manner to which they are to a greater or lesser extent objectified. The process is not in conflict with the position of Popper, but the difference between individual reality and objective reality is not seen as an important part of the theory.

In general terms the basic view to which both theories might accommodate is that there does exist a consistent objective world, but it does not always seem the same to different people and the same people at different times. The more complex the features of the world the more open they are to different definitions and interpretations. Snow is real and objective to everyone coming into contact with it, and different qualities of snow are perceived, interpreted and defined eventually by people who need a more complex definition. The more complex the definition the more likely there are to be competing definitions which will

necessitate adjudication by those with traditional or status power to determine change. The power to change existing definitions lies within individuals with vested or persuasive authority which in an open society has to some extent to be a democratic process. Those with vested or persuasive authority establish with the majority or important power groups agreed definitions. Even if the agreed minimal definitions are objective, and appear to be the truth at a particular moment in a particular place, a changing world might demand a more complex definition to be established.

This view of truth and people assumes that society can exist because people respond to reason and justice, and there are people with vested or persuasive power able to bring about changes in majority perception, interpretation, definition and response to approximate to the complex real objective world. It is a belief in the democratic process making a positive contribution to the establishing of the objective reality of the world of things and the world of people. Only by constantly agreed definition and redefinition is it possible to keep track of what is true at one time with complex issues. Knowledge which is related to peoples' definitions can be simple and objective but can equally be complex and interpretive.

It is therefore implied that the objective real world features can be quantified and verified in some permanent sense. On the other hand, the complex, inter-subjective and theoretically vague features can only be captured momentarily as they are interpreted by people at that moment and established by negotiation. What is of interest and importantance, is the analysis of values and meanings influencing the conduct of life in that particular world, which might make a contribution to the

development of theoretical understanding. This explanation differs from that of Berger and Luckmann by placing an emphasis on the contribution of influential power groups and from that of Popper by being less anxious about permanence.

One major methodological difference which exists between the theories of Popper and Glaser and Strauss might only be present on the surface. To Popper (1968, p.344) when conducting research the hypothesis should precede the observation, whilst in the generation of grounded theory it is data which precedes theory. Glaser and Strauss (1968, p.119) would object to an hypothesis being arrived at from the established literature before considering the data, on the assumption that it is not possible to prevent the interpretation of data being influenced by existing theory. On the other hand a slightly more convincing argument would be that it is impossible for a researcher to analyse data without being subconsciously influenced by existing sedimented theory. If therefore the principle on which this practice is founded is suspect then it is undesirable to throw away the advantages which a review of existing theory and data might bring. It would allow the generation of theory from existing literature to be seen as simply one more stage and opportunity in the continuous research process of generating theory. The theory generated in this different way can then be used in a dialectical relationship with that emerging from the data. This is different from the positivistic approach which works on the linear relationship of the hypotheses generated when existing theory determines how the data is observed, collected and interpreted in the belief that this focuses the data gathering and makes it more penetrating. The methodology which would be developed from this argument should therefore reconcile the two and generate focused grounded theory.

Theory should be allowed to arise from the data being collected, but data collection and analysis will be influenced to some extent by some form of hypothetical scheme. If an investigation is a progressive, dialectical operation there does not appear to be any reason for not accepting both approaches at relative levels of purity at different stages of the research.

2.3 A Research Orientation and Strategy Sensitive to Negotiation

The modified subjectivistic orientation developed from critical discussion and comparative analysis calls for a research methodology which emphasises theory building and problem solving. It requires an investigation carried out over time, with continual inter-meshing of data collection, analysis and theory building to take place. This will then allow the dialectic of continuous comparison and critical discussion of typologies, concepts, comparison groups and intelligibles to take place. It will work both from observation to hypotheses and hypotheses to observation in generating theory. This should provide a research strategy which is sensitive to negotiation at many levels and the shared threads of subjectivist theory, processes of change, dialectic, social interaction and construction of participants meanings and actions. A broad definition of the concept of negotiation which is emerging is not limited to explicit interaction between two people. It can be either explicit or implicit, and involve institutions, groups or individuals, or even an individual's internal negotiation of change. It is the basic building block of reflection and action which embodies continual social interaction, endemic change and ongoing interpretation. It goes beyond the use of the concept made by MacDonald and Walker (9176, p.18) or Glaser (1978, p.107). A precise definition

would be the process in which individuals or groups engage in response to situations, and which results in new knowledge, understanding and definitions. These lie on a continuum running through perception, interpretation, definition, dialogue, accommodation to objectification. It is the process by which the definition of the situation is achieved.

There is some indication that an embracing theory linking all the theoretical perspectives might be emerging. The process theory of innovation, curriculum-as-practice principles, interactionist role theory and the shared strands of theory linking change, dialectic, social interaction and the construction of participants meanings and actions appear to be in essence, the same. This perspective, a general process theory, emphasises:

(a) modification, ongoing change, progression;
(b) interaction, social negotiation;
(c) interpretation, relativity;
(d) involvement, action orientation, individual identification and commitment.

This would be in opposition to a product perspective which emphasises:

(a) established institutions and procedures, conservatism;
(b) independence from man;
(c) determinism, universality;
(d) detachment, passivity.

Although such a conceptualization is useful as a point of reference used in relation to the process of negotiation, to attempt to test its applicability positively within the context of this investigation is too ambitious a project.

2.4 Rationale and Principles of Research Design

The aim of this investigation is to identify the teacher negotiation processes which are important in the development and implementation of an innovation in education by studying a grass-roots example; the implementation of the C.S.E. Mode III examination in physical education. The research methods adopted have to satisfy the modified subjectivist criteria, described in the previous chapter, and, by the analysis of negotiations taking place, probe the interactionist processes of dialectic, change, inter-subjectivity and construction of participants meanings. It has been argued in the previous section that neither an objectivist approach using an experimental model nor an extreme interpretative design were appropriate.

The research organisation, structure and data processing strategies were not predetermined, neither were they left completely to emerge from the data as the investigation progressed, but the inclination was towards bracketing, that is attempting to ignore established theory and constructs. The design utilized practices which were as rigorous and systematic as possible without limiting the opportunities for data collection or the chance to maximize discovery. This project is seen as being at what Galtung, (1971) calls an exploratory rather than a confirmatory phase of research which calls for "analytic description not causal explanations" (McCall and Simmons, 1969, p.3).

2.5 Qualitative Methods

To investigate the processes which are the focus of this research, involves drawing on qualitative methods developed in anthropological, ethnographic, case study and evaluation research. The arguments supporting this view of the efficacy of qualitative methods have appeared frequently in the literature (Wilson, 1970; Phillips, 1973; Wilson, 1977; Walker, 1971; Hamilton, et al., 1977; Guttentag, 1971). An "analytic description" (Becker, 1971) drawn from a case study approach using participant observation and interview methods appears to meet the criteria which were identified when the orientation of the project was being defined.

2.5.1 Case Study

A fairly loose view of the nature of a case study is being accepted which sees it as a bounded system not just one case, and also as a particular approach or method of research. The distinction drawn by Stenhouse (1978, pp.37) between case study as "the interpretive presentation of the case" and analytic survey as, "an attempt to draw together data from case records to make retrospective generalizations", is totally ignored. In this investigation both activities will be engaged in and there is nothing to be gained by making the distinction. It is also appropriate to accept the dialectic or open view of case study as proposed by Kemmis, (1980), because a primary concern of this study is process, change and adjustment which must accept the possibility of this occurring with the definition of research methods as well as the objects of the study. It is not ignoring the esoteric interest currently being taken in defining the nature of case study research (Stake, 1978; Stenhouse, L. 1980; Ebbutt, 1981; Powell and Gray, 1981). There is a very small element of action

research in this study and some intervention but not in the excessive form described by Argyris, (1970). A similar belief exists that advantages are to be gained from the research being interrelated with the decision making processes in the activity being studied. The advantages to be gained by maintaining involvement and generating insights outweigh the benefits which attempts to establish spurious objectivity might bring. Guttentag, (1980, pp.79), for example, points out that the classical reductionist model is not relevant to all research purposes and would not be suitable if building up a comprehensive explanation or the understanding of generative mechanisms were the purpose of the research. The major concern of the research is the teacher and one approach to the investigation would be to limit the study entirely to the teachers implementing the examination courses and disregard the activities of the Examinations Board. The case study approach, which included some aspects of the Board's activities, was seen as being a better design as negotiations between Board and teachers were clearly of great importance, and system pressure as well as individual biography could be more thoroughly considered. This means that structural constraints, to which Marxist theory has drawn attention, could be analysed.

2.5.2 Participant Observation

The C S E examinations are controlled by Regional Boards, of which there are now thirteen. The study of physical education examination developments in one of these Boards over seven years is a sufficiently compact exercise to enable it to be conducted in the manner proposed and be considered a bounded system. To study the negotiations in which the teachers implementing the examination

were engaged, participant observation was adopted as an element of the case study. The researcher took on the role of Chief Moderator for the Board's Faculty of Physical Education to enable an insider role to be adopted in the research. There were no difficulties in reconciling the roles of examination scheme administrator and researcher, and being located in the very middle of the examination administration and implementation network provided a unique opportunity for observing and recording developments.

The Board, its committees and officers, provide the general framework for conducting examinations across a wide range of school curriculum subjects and faculties have been designated for specific subject areas. The regulations and requirements of the Board are interpreted in relation to the specific subject by the chief moderator and assistant moderators, through negotiation with the Mode III secretaries at the Board level and teachers implementing the schemes in schools. Each assistant moderator is responsible for up to eight schemes and visits the schools in the first place to negotiate changes in the scheme being proposed and once a year when the scheme is operating to moderate the examination and assessment scores awarded by the teacher. The chief moderator is therefore a link between assistant moderator and the Board, and some schools and the Board.

In an investigation of this kind it is not an advantage to maintain neutrality. It is more beneficial to exploit the advantages of familiarity and understanding gained from working from the inside and developing a working relationship with the respondents over a period of time. This would not be the case if the aim of the project was confirmatory rather than exploratory.

It can be argued that this role will inhibit the responses which the teachers make and contaminate any conclusions which are to be drawn from the investigation. Because of this danger some conclusions will not be permissable. These claims are not denied, but the test will not be of the observations which cannot be made because of the contamination, but the quality of those which are reported and made possible by being so deeply involved in the working of the examination. The observations which were made would have been different if the dual role of researcher and Board chief moderator were not combined, but the belief is that the difference is not in terms of validity, objectivity, nor quality, but simply their nature.

2.5.3 Techniques and Procedural Rules

Wax, (1952) points to the advantages gained by increasing familiarity with respondents in field work, particularly if some element of reciprocity can be established. This certainly applied with most teachers who were formally interviewed. They felt that not only was the researcher getting what he wanted, but it was also providing them with an opportunity to get answers from the chief moderator to a number of their own questions and discussions of what they considered to be important issues.

Participant observation can be an excuse for sloppy research and needs what Phillips (1973) called procedural rules to minimise subjectivism or achieve what Wilson, (1977) refers to as disciplined subjectivity. The nature of these procedural rules, or safeguards, are thoroughly and intelligently debated by McCall and Simmons (1969), Bruyn (1966), Wax (1971), Denzin (1970), Brynner and Stibley (1978) and good demonstrations of their application are to be found

in the work of Howard Becker and Anselam Strauss (Becker, Geer, Hughes, 1968; Strauss, et al. 1964).

The techniques used in the study were: recording of informal interviews and meetings, analysis of records and documents, and formal interviews. Appropriate procedural rules were applied and are described with more detailed descriptions of these techniques. The Board, when approached, raised no objections to material which was being gathered incidentally during the normal moderating process being used for the study, as long as specific schools and individuals were not named. They would not agree to the setting up of a more systematic arrangement where meetings and the inspection of documents would be formally set up. The Board's reason for this was that the results of any research which had been given support in an explicit way might impose obligations on their decision making which would not apply to a study conducted unassisted. They would want to be involved in determining the project design of a study which was likely to influence Board policy and practice. This semi-formal arrangement was not an insurmountable barrier to conducting the research, as the questions being probed were more related to teachers than the Board. All research designs are developed within constraints of one kind or another and those operating on this investigation did not thwart its purpose.

2.6 The Object of Study

The Board first examined physical education candidates in 1974 when one moderator was appointed. The post of Chief Moderator for Physical Education was established in January 1976 when the researcher was appointed. At the same time four assistant moderators were appointed. At this stage 250 schemes had been introduced throughout the country, which have now grown to over 500

(Schools Council, 1982, p.20). The sample would include what Rogers (1971) classified as 'innovators' and 'early adopters'.

Since 1976 the number of schemes being examined by this Board has steadily grown to a maximum of 44 in 1978 and the moderating team was increased to 10 in 1981. The number of schools and candidates being examined since June, 1976, are given below:

YEAR	SCHOOLS	CANDIDATES
1976	19	376
1977	35	659
1978	44	943
1979	40	813
1980	40	965
1981	44	1072
1982	41	944

The growth appears to have steadied at about 40 schools and 1000 candidates. Schemes have been discontinued to be replaced by other schools joining. Of the 25 schools registered in 1976, 11 continue to conduct examinations. Altogether 72 schools have been involved in the examination with this Board. Nationally C S E Mode III subjects in general reached their peak in 1979 (Torrance, 1982), but the evidence of Carroll (1984) is that in P.E. involvement is still increasing.

2.7 Data Collection

Meetings which were used to gather data informally were those held at the Board offices between moderators and officials of the Board, moderators standardisation meetings and visits to schools to discuss with teachers the submission of new proposals or to moderate examination and assessment results. Papers and letters

circulated by the Board setting out policy and practices were also a source of data. In addition, with the agreement of headteachers, formal interviews were arranged with the teachers implementing C.S.E. schemes in the schools. These formal interviews took from one to two hours. The "case record", which Stenhouse (1980, p.5) claims should be available to meet criteria of verification and cumulation, from all fieldwork was kept in the form of field-notes and tape recordings.

Data was gathered from 91 informal contacts and meetings and 12 formal interviews. The period over which informal data was collected was from January, 1976, to July, 1982. The formal interviews being conducted between May, 1981, and June, 1982. Meetings which were used to gather data were of various kinds.

1. Meetings with the Board officials:
   (a) official meetings with Board secretaries, e.g. Annual Award of Grades; 7
   (b) discussions set up specifically to consider policy or problems. 8

2. Meetings with Moderators:
   (a) examination policy, standardisation of grades and examination follow-up. 15

3. Meetings with teachers:
   (a) visits to schools to discuss proposals; 17
   (b) visits to moderate examinations. 30

4. Formal interviews with teachers. 12

5. Telephone following-up of schools withdrawing from scheme. 14

2.7.1. Informal Interviews

Meetings with Board officials included the annual award of grades meetings where chief moderators of Mode III schemes presented their annual results to the teacher members of the Board's Examinations Committee and Mode III Secretary. This is a ritual gathering intended to bring some standardisation to Mode III schemes for which there were not equivalent Mode I schemes. It gives the Board officials opportunities to put public pressure on chief moderators and opportunities for chief moderators to bring to the attention of the Board members any developments which are beginning to cause concern. Other meetings were set up to discuss policy and problems with the officials of the Board. These tended to be short meetings of 15 to 30 minutes, often at the beginning or end of meetings with other moderators.

Meetings with moderators which are from 3 to 6 hours duration changed in emphasis over the six years the investigation was being conducted. Originally meetings concentrated on developing policy but latterly, because of Board pressure, the emphasis was on examination standardisation procedures. Meetings with teachers also changed from the early years of the scheme when visits to schools, which lasted about 2 hours, were used to discuss their examination proposals, but latterly only meetings to moderate examination results were permitted by the Board.

An important feature of the research design was that it should be conducted over a period of time and not single stage testing. The data collection and analysis should be enmeshed and continuous. Not much attention is paid to discussing time-scale and continuous collection and analysis of data in the literature, yet when

investigating social processes it is an important factor. One commentator who considers the issue is Hughes (1976, pp.226-245) who indicates the advantages which are to be gained from extended data collection. Popper's critical discussion and Glaser and Strauss's continuous comparison both built in time as an element of the design. With this investigation the sequence and relationship of events, over the period of time the examination has been operating, must be an issue to be considered.

In exploring the topic initially it became apparent that important data was accumulating which ought to be utilised in the investigation, but would be wasted if a single stage testing design were to be adopted. In conducting informal interviews, in the role of moderators of the Board, statements were being made by teachers which provided valuable insights into the innovation process.

In all of these situations the use of a tape recorder was not possible because of the nature of the transactions and expectations of the participants. Significant statements and their sources were unobtrusively recorded at the time, and written up and expanded at the first available opportunity within the following twenty-four hours. In addition, with meetings of Physical Education moderators, detailed agenda and minutes were produced which in themselves identify and record issues and developments in the implementation of the examination. The expanded field notes provided links, explanatory remarks and some indications of context. The additions were as far as possible limited to researcher's observation and did not move into researcher's interpretations or definitions.

Denzin (1970, p.366) identifies six problems associated with observational research:

(i) gaining entry;

(ii) establishing and maintaining membership;

(iii) avoiding presence altering behaviour;

(iv) maintaining objectivity;

(v) recording and analysing the data;

(vi) overcoming ethical aspects.

The experience of collecting informal interview and observational data for this research did not suggest that these were particularly worrying problems. As indicated earlier procedural rules were adopted in the process of developing the research to minimise the effects of known obstacles to this type of investigation, whilst others, i-iii, were actually resolved by the combination of roles. This data proved even at an early stage a rich source of insights into processes. Not to have developed a system to deal with the material which began to emerge early in the investigation would have been a great waste.

The ethics of the participant observation approach are an important issue. Although the appropriate Secretary of the Board was aware of the intention to use experience of moderating as a basis for a research project all the other moderators and teachers, other than those used for formal interviewing, were not. To have preceded every meeting with a warning that what was said might be used in a research report would have interfered with the task of moderating. It was also unnecessary if the criteria of ethical behaviour set out by McLachlan (1980) are accepted. What must not arise are deceit, breach of confidence and invasion of privacy, but no data was suppressed on these grounds. Many of the meetings were essentially public and for which minutes were produced, the rest were of a nature which dealt with non-confidential issues, and

none of the material in any of the documents could be seen as being potentially embarrassing to anyone. The investigation is better described by MacLachlan's term non-overt than by Homan's (1980) covert. This was to some extent determined by the subject of the investigation, as examination boards are by their function forced into operating in a public, open fashion and teachers' demands do not impose pressures which make deceit a necessary part of their task. Nothing which could be reported was restrained yet nothing which was reported could cause discomfort to anyone.

2.7.2 Formal Interviews

The formal interviews, which were conducted in the schools, lasted from one to two hours. They were of the semi-structured type and all the teachers agreed to a tape-recorder being used, but in one case particularly, non-verbal signs of nervousness were apparent.

It was decided to use a sample of 50% of the twenty-five teachers who had started the schemes which had been approved before January, 1976.

A number of criteria were taken into consideration in the selection of the twelve which was made on grounds of best fit against all the variables.

(i) Education environment of the school:

- (a) Large town or City, Centre or Estate; 6
- (b) Small town or suburban fringe; 6

(ii) Distribution over region:

- (a) Lancashire; 4
- (b) Merseyside; 4

(c) Greater Manchester; 2

(d) Cheshire; 2

(iii) Gender of teachers:

(a) Women; 7

(b) Men; 5

(iv) Gender of School:

(a) Girls; 3

(b) Boys; 3

(c) mixed; 6

(v) Subject specialisation:

(a) Outdoor pursuits; 1

(b) Physical education; 11

(vi) Progress of course:

(a) Continuing; 8

(b) Discontinuing. 4

This was what Sadler (1981, p.17) calls a fair sample which satisfies the four conditions of representativeness, feasibility, impartiality and rationality.

Two interview schedules were developed. The second being produced in response to change in the tentative theory brought about by the analysis of the data gathered from the first six teachers to be interviewed formally. The schedules were developed as an integral part of the analysis of data and will be described in that context.

2.7.3 Documents

The documentation associated with an examination scheme is quite considerable. Standard practice is essential if justice is to be displayed and it is always necessary to protect the decisions taken from appeals, and so regulations, policies and practices have to be made explicit. The papers available were:

(a) board Regulations and Notes for Guidance;

(b) examination regulations;

(c) instructions for Chief Moderator;

(d) notes of Guidance for Mode III moderators;

(e) policy statements of the Curriculum Sub-Committee and Examination Committee circulated to moderators;

(f) letters from Board officials indicating Board policy on specific problems and issues;

(g) papers interpreting Faculty practice circulated by the Chief Moderator;

(h) proposals for Mode III schemes submitted by individual schools;

(i) examination papers of individual schools.

Much of this material would not have been available to the researcher if he had not also been carrying out the duties of Chief Moderator.

2.8 Data Analysis

The methods of analysis devised to meet the requirements of the study were unique. The approach of Glaser and Strauss (1968, pp.48) was helpful in accommodating a time-scale into the project. In describing their form of comparative analysis they argue for theoretical sampling, "designed to be applied in the ongoing joint

collection and analysis of data associated with the generation of theory".

Popper (1972, pp.164), similarly, sees scientific discovery as an ongoing operation. It therefore appeared sensible to build the research design on his sequence:- identifying the problem, generating a tentative theory to explain the problem, collecting whatever evidence is available to eliminate errors in the tentative theory, leading to a redefinition of the problem and repeating the cycle. Both continuous comparison and progressive discovery give support to the adoption of a research design and methods which utilize a multiple step, inter-related data collection and analysis technique. The first problem which the investigation identified and which determined the approach to the study was not the problem with which the investigation was finally concerned. Following the analysis of early informal interview data and new developments identified in the reported literature, errors were eliminated from the ongoing analysis of data and reformulation of the problem took place to adjust the emphasis and direction of the investigation. This redefinition of the problem occurred on two other occasions.

What has emerged is a process approach to data collection analysis and theory building, which makes allowances for change, inter-relationship and ongoing interpretation.

The first systematic analysis was carried out on data gathered between December, 1976, and October, 1977 from meetings with teachers to either discuss schemes being submitted or moderate marks. The purpose of the analysis was not only to make whatever error elimination was necessary on the original tentative theory, but also to provide a single basis for developing a formal interview schedule.

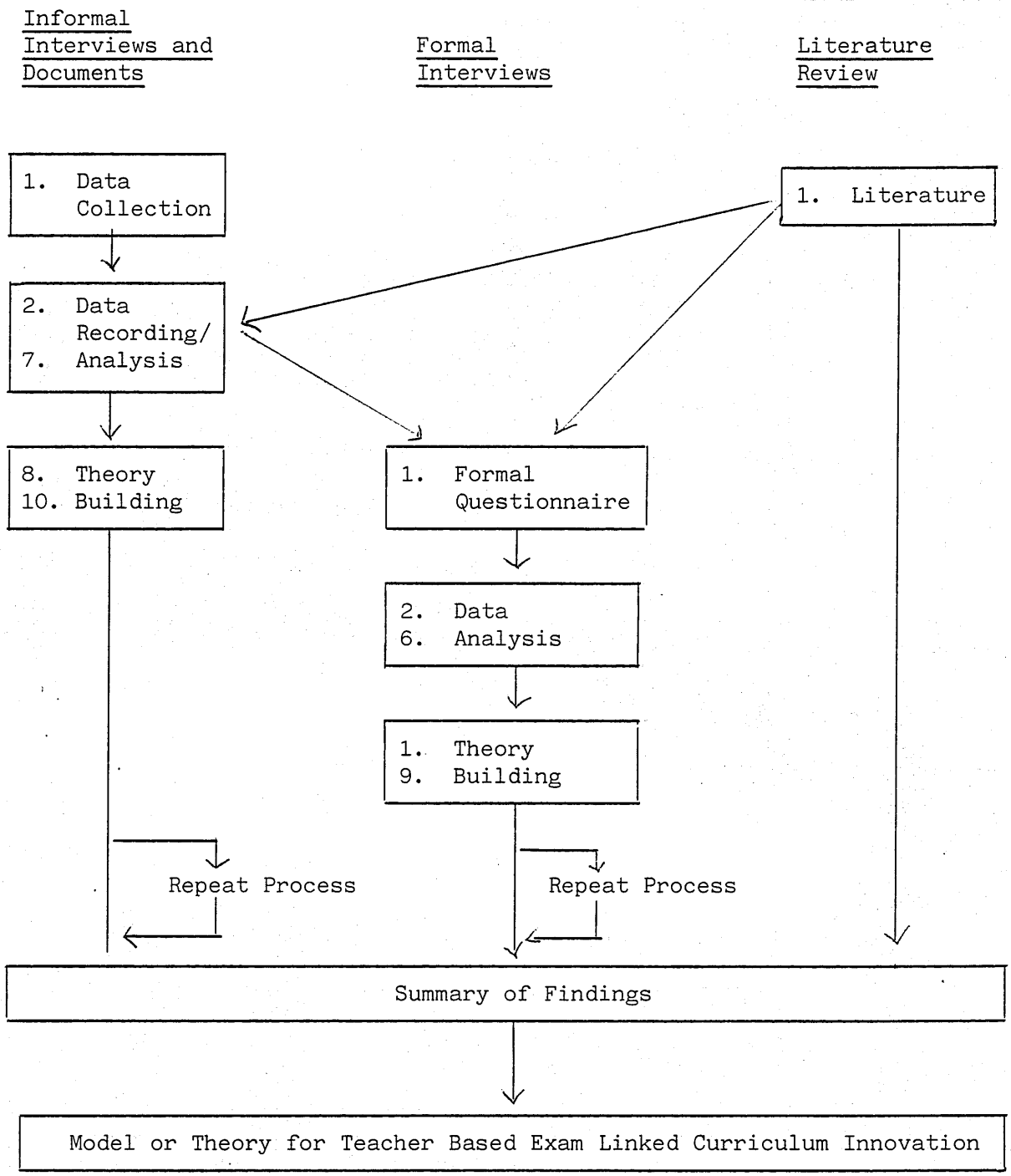
Additional data was subsequently gathered from informal and formal interview situations, documents and literature sources, and the evidence gathered used as the basis of arguments for the adjustment of both the tentative theories and data gathering activities. The ongoing research process, including the developments of interview schedules, depended upon and was enmeshed in this continuous, accumulative, analytical process.

This is a method which is responsive to change and ongoing interaction and the data which it has produced has helped to identify and define features which provide evidence of underlying patterns, which lead to the raising of hypotheses and theories. From this process, knowledge has hopefully emerged which is sufficiently 'objectified' to count as Popper's 'third world objects'. It is not numerical data which can be analysed and tested statistically, but an accumulation of statements which contribute evidence to an argument. In some instances it might only be a single statement, but when related to other features of a critical discussion or comparison, establishes support for an insight which did not previously exist.

2.8.1 Technique for the Ongoing Collection and Analysis of Data

It was recognised that the technique which was required to deal with the data being gathered was something similar to what Strauss (1964) calls pinpointing tactics. Strauss provided some detail, but the activity needed more organising and controlling than he indicated. Louis Smith (1971) was more helpful in describing the case-study analysis and model building techniques which he built up from the earlier work of Hans Zetterberg (1965) and which is similar to the analytical description techniques of Howard Becker (1971), but again

Diagram 1. Inter-relationship of Data Collection and Analytical Methods



it was not completely satisfactory. To solve the problems of providing accumulative ongoing analysis, preventing an overload of data, and enabling continuous adjustments to tentative theory to be made, these techniques had to be amalgamated, extended and refined. It emerged as a system which was very similar to that reported by Glaser (1978) as developments in the methodology of Grounded Theory. Here details in the steps from 'jots', 'codes', 'memos', 'core categories' and 'basic social processes' are described in the generation of substantive theory.

What follows is a description of the technique which was developed for this investigation and might usefully be called accumulative observation and analysis. An appropriate label as effectiveness rests upon an accumulation and intensification of perceptual and conceptual activity on the part of the researcher. The operations prescribe a cycle of analysis and synthesis which, if followed, organises and intensified conceptual activity and enables relationships, issues and processes to be identified which might otherwise go unrecognised. This technique also enables the structure of the problem and content of the report to emerge in an organic manner. It is at its least a system for managing data and at its best a dynamic strategy which generates insights, and what Zetterberg (1968) refers to as progressive axiomatic thinking.

2.8.2 Accumulative Observation and Analysis

The cycle of operations extended from establishing the subjects definition of the situation, e.g. teachers' description and other data collection, to the researcher's observation in the processes of analysis, and finally, researcher's definitions where analysis merges into theory building. There is a constant interaction

between the theory as it is being established and refined, and the evidence which is emerging.

From the original two steps which were identified, i.e. data collection and data analysis, a ten step technique has emerged during the operation. Data collection, i.e. of interview, observation and document material, remains the initial step. The remaining nine steps are devoted to data recording and analysis which merges into theory building. The distinction between analysis and theory building being arbitrarily placed between raising questions and stating propositions, which is also the dividing line between the researcher's interpretation and definition. The relationship and sequence of the ten steps are shown in Diagram 2, and the relationship of this particular operation with the other research activities are shown in Diagram 1.

The stages of the analysis in more detail as numbered in Diagram 2 are:

1. Data collection

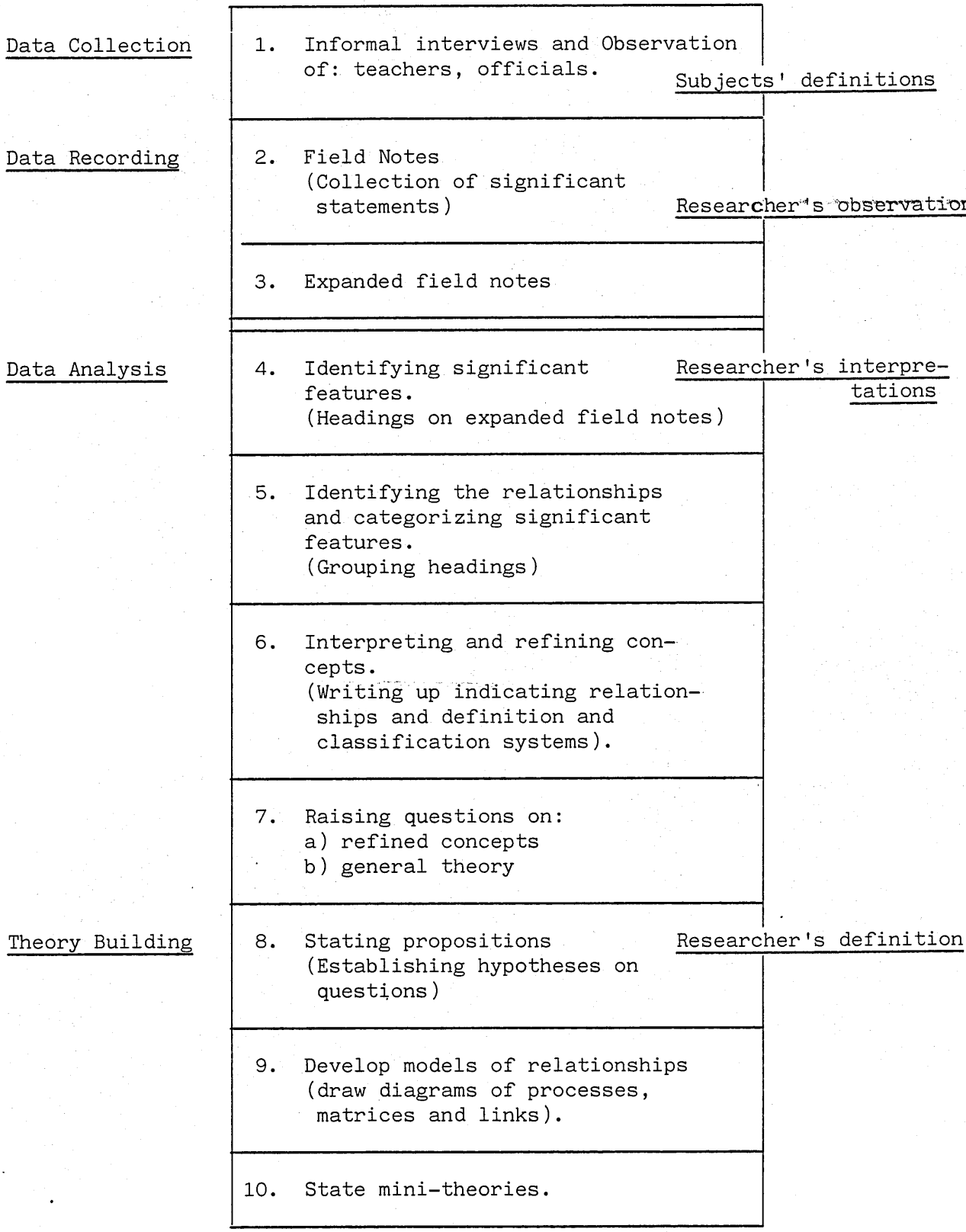
2. Field Notes

   With the informal interviews it was possible to note quickly and unobtrusively the exact significant words used by subjects. More obvious recording of statements would have made data collection unacceptable in these situations. This is clearly a researcher's observation stage.

3. Expanded Field Notes

   Within 24 hours of completing the informal interview, the field notes were expanded to provide links, explanatory remarks and some indications of context, in order that sense could be continued to be made of the records on future readings. With formal interviews tape recording was used.

Diagram 2. Collection and Analysis of Data



4. Identifying Significant Features

The expanded field notes were worked through and clear headings written into wide margins left for this purpose. The headings were recorded where the researcher identified and interpreted an entry as being a significant feature. The headings were selected to be as pithy, and (Zetterberg, 1965) as axiomatic, as possible. This is a conceptual process of picking out from the general data what Zetterberg calls variates, and finding the correct category which will make it possible to relate to similar 'variates' at subsequent stages of analysis; Smith (1971) refers to is as 'naming phenomena'. The labels used for these phenomena can be very simple and obvious descriptors such as, change of teacher, or a common examination board term like drawing grade level boundaries, or social science terminology as with teachers definition of the subject. The aim is for precision in establishing the essence of the feature and not at this stage allowing metaphorical thinking to have any influence. It is very clearly the operation of the researcher's interpretation using first and second order constructs, Schultz (1971). The same technique was applied to the analysis of documents.

5. Identifying the Relationships and Categorizing Features

The descriptors established in the previous analytical operation are then inspected and put into related groups. The groups were determined only by what emerges naturally out of the data, which is an important principle running through the technique, i.e. that more lively, crucial considerations will emerge organically than can be imposed by some mechanical and pre-determined organisation of the ideas and material. The interpretation grouping and categorization is at this stage similar to the previous one, with the emphasis on

precision and simplification. A number of headings relating to course development might be identified and recorded by noting page numbers of references and sub-titles, e.g. 'Diffusion - personal contact and chance acquaintance page 2'. The sub-titles used are those established in the previous stage and the only conceptual activity at this stage is identifying the relationships and naming headings. With the formal interview tape recordings relationships and categories were similarly identified and recorded in list form.

6. Interpreting and Refining Concepts

The writing up of the results of this pin pointing, analytical function is intensly conceptual. The labels were refined to convey the essence of the phenomenon, relationship or process. So the label 'Search for significant outsiders' is replaced 'Diffusion - personal contact and chance acquaintance'. As a more generalised label it is consequently able to cover more relationships, yet at the same time fixing the element of the process which appears to be most important with more precision. The principle followed here being that precise labelling will lead to more precise and insightful conceptualization, and eventually more perceptive identification of relationships and processes. It is also necessary to be explicit and prescriptive to ensure that clarifying concepts takes place, or at least that maximum use is made of the process. With the formal interview significant issues were recorded diagramatically to further clarify relationships between concepts. Whether or not this categorization leads to establishing definitive or sensitizing concepts has not been considered on the grounds argued by Blumer (1979), that it is not possible to resolve the ambiguity on this issue and it just has to be tolerated and left open.

7. Raising Questions

In developing a formal interview schedule questions were raised on the refined concepts, and also issues established in the general literature and phenomenological theory. It also enabled issues, processes and relationships to be identified and refined, a structure for the report to emerge, and hypotheses to be stated. In identifying questions and finding the appropriate words for framing the questions the first real step towards the imposition of the researcher's definition of the situation was made. It is a step which applies to the analysis of data from single sources and also to the analysis of data from all sources combined. The quality of the question raising is determined by the constructs through which perception is structured and consequently defined, which depends to some extent upon the individual's language facility and background knowledge.

8. Stating Propositions

The next stage of making propositions is achieved by stating hypotheses to focus questions raised in the previous operation. In this activity the researcher appears to be defining concepts and categories. The first step is to group the questions related to similar issues, behaviours and activities. The categorizing of the questions in this way avoids confusing and unmanageable duplication and proliferation, and also intensifies or makes more axiomatic the conceptualization. In addition it structures the whole report. It is again an attempt to systematize intellectual activity and calls for intensive concentration, enabling processes and relationships to be identified which had not previously been recognised. The discipline and orientation of making statements in propositional form also focuses attention differently.

9. Developing Models of Relationships

This is more than a simple process of transferring the categories and distinction established in stage 8 into diagramatic form. The process is influenced and altered by any relevant insight or knowledge which is available to the researcher. In addition during the process of diagramatic representation categories are simplified and sharpened which also brings about changes and realisations of imperfections and gaps to be filled. The final utility of the operation is when connections are sought outside the area of data upon which the analysis and synthesis was constructed. This again makes it necessary to alter and re-arrange in order to bring about satisfactory closure of untidy ends of the model, and at the same time reveal possibilities and relationships which were not previously realised.

10. Stating Mini-theories

Theories can be seen as explaining and predicting (Argyris, 1970) and stating hypotheses in the form of compact theoretical statements helps to achieve this. At a simple but important level it makes clear and explicit to the researcher what has been discovered or established, and to readers of the research report what now needs to be done to develop the investigation. Examples of field notes, expanded field notes, and other steps in the analytical and theory building process are to be found in Appendix A.

2.9 The Development of Formal Interview Schedules

The production of formal interview schedules grew partly out of the accumulative observation and analysis techniques developed in this research. One of the draft questionnaires for the first inter-

view schedule was derived from the intermediate analysis of the informal interview data to ensure that the second stage of the research was responding to the questions raised in the first. In addition the process adopted for developing the schedule was that used for analysing the data. The second interview schedule was a direct response to the questions being raised, hypotheses and tentative theories being proposed following the analysis of data gathered from the first interview.

2.9.1 The First Formal Interview Schedule

In constructing a schedule for the formal interview of physical education teachers procedures were devised which endeavoured to make use of mechanistic operations which did not create barriers to open interaction with the subjects, and predetermine the data which would be gathered.

The extreme position to adopt on one side would be to go along to the teachers and simply talk about the examination course, allowing the interests of the teacher and the interaction forces to determine the topics to be considered. On the other hand a highly structured questionnaire or interview schedule could be controlled to provide data which might be interpreted in a similarly organised, predetermined fashion.

The aim with this interview schedule is to achieve some kind of balance between the extremes, but if anything to secure the advantages to be gained from spontaneity. A careful approach to framing open questions would ensure comment on all previously recognised important issues yet leave open the opportunity for others to emerge. This fits into the rationale of the project which adopts

a modified subjectivist position and emphasises the need for discovery rather than verification.

The number of questions which could usefully be asked in relation to this project are almost boundless. Questions can be raised on different bases which are justified in terms of particular guiding principles, but in fact are quite different. The problem is to select a limited number which are the most insightful, important and relevant.

One set of questions was drawn up following an analysis of available literature on innovation in education and the role of the teacher in curriculum development. The questions raised on the basis of this theory focused mainly on teacher's awareness and experience, and were reasonably specific. Another set which was related to central concepts of Berger and Luckmann's theory of the social construction of reality, generated very general questions which focused on the teacher's social interaction, and new awareness and meaning. This social phenomenology theory was dealt with separately as it appeared to have special relevance to the problem being investigated. The third set of questions were those which emerged from the pin-pointing exercise, using the accumulative observation and analysis technique, carried out on the informal interview data. These questions were very specific and concerned with practical problems. The first two sets of questions were intended to operate as a text of or balance to the third set of questions which were seen as being the most important. There were duplications as well as particular strengths and foci in the questions in the three schedules which needed to be accommodated.

The selection of schedule structure and questions was made on

principles which emerged in developing a data analysis technique and which has been referred to as accumulated observation and analysis. The categories established by the pin-pointing exercise on the informal interview data were used as the basic structure of the schedule rather than that of either the general or the phenomenological theory. This was on the basis that they had emerged from the data and therefore were organically linked to the project in general.

The selection of the questions as well as the schedule structure was conducted according to previously established principles. All three interview schedules developed on different bases were scanned and hypotheses raised which integrated the three schedules. As well as eradicating duplications, misfits were identified, and issues reduced to a more manageable number. Questions were then formed to test each hypothesis although some questions, it was eventually discovered, would provide responses which would make a contribution to more than one hypothesis.

During this question framing, doubts arose as to the discreteness and utility of the categories being used. It was found useful to repeat the previously established practice of drawing a diagram to indicate the relationships of the hypotheses stated, with the outcomes of the research. This enabled a much clearer understanding of the processes involved to be established and some operational principles to be recognised. Similarly, to eliminate other uncertainties and establish working principles, a statement of the theory of the influence of innovator's consciousness on the implementation of grassroots innovation was made. These activities enabled uncertainties to be resolved, consistency to be established and clarification and parsimony achieved. In a similar way, to

resolve problems concerned with the practice and principle of interviewing and question framing, a theory of interviewing and question framing was developed.

There appears to be a general utility to the steps of analysis developed for the purposes of data analysis and project reporting. The result in this instance is an interview schedule which is more manageable in the time available. It also combines the advantages of relevance from questions emerging from the data process, with the greater penetration and generalization which appear to be characteristic of the questions generated by theory.

The following papers which demonstrate the stages of development of the first interview schedule are to be found in Appendix B.

1. Interview Schedules.
    1.1 Draft - First Formal Interview Schedule from General Theory. (Extract).
    1.2 Social Construction of Reality. (Extract).
    1.3 Analysis of Informal Data.
2. Hypotheses on 3 Schedules.
3. Diagram of Relationships: Questionnaire Hypotheses and Outcomes of Research.
4. Theory of Influence of Innovators Consciousness on Implementation of Grassroots Innovation.
5. Theory of Interviewing and Question Framing.
6. Formal Interview Schedule.

2.9.2 The Second Formal Interview Schedule

Following the interview of 6 teachers and the initial analysis of the responses it was decided to develop a second schedule.

The procedure adopted for developing the second, formal interview schedule was similar to the first. Questions collected from inspection of earlier material, particularly the initial analysis of the first interview, and identified as being significant, were stated in hypothesis form. From these statements questions for the second interview schedule were raised which had more order, precision and coherence than the intuitive question raising when the earlier material was first considered. This system might appear to be unnecessary and tedious but the conviction is that it leads to a more searching and better-organised analysis. The issues become clearer. They can be stated and questioned with more precision, and the concealed duplication is eliminated, enabling the operation to become more effectively probing.

The natural process of intellectual and scientific enquiry is intensified and the accumulation process continued. It reduces the anxiety that important issues might be forgotten, and keeps explicit the connections with previous developments and materials. Reducing the anxiety in this way might lessen the element of spontaneity, consequently the degree of perceptive penetration, but on balance considering the extent of open procedures already existing in the methods being adopted in this investigation it is thought preferable to err on the side of order and organisation in this instance.

Papers indicating the states in the development of the second formal interview are to be found in Appendix C.

2.9.3 Telephone Follow-up of School, Withdrawing from the Examination

As a check of the teacher's accounts, and a final opportunity to identify important issues which might have been overlooked, a follow-up was made of the 14 schools where schemes had been approved before January 1976 but had since withdrawn. The headteacher or deputy-headteacher responsible for examinations in each of these schools was contacted by telephone and asked why the schemes were being discontinued.

3.0 The Processes Involved in an Examination Linked, Teacher Based Curriculum Innovation

3.1 The Aim and Structure of the Report of the Findings

The form and presentation of the report which draws on the work of Glaser and Strauss (1968), Becker (1971), Zetterberg (1965), and Smith (1971), is also an attempt to put into practice, and to some extent test, some aspects of the epistemological theories of Karl Popper (1968, 1972). The structure of the report grows out of this theory. Each section of the report sets out a stated problem, the tentative theory proposed as a solution to that problem, and the identification of the errors in that theory. This follows the general model of problem solving, P_1 TT EE P_2 proposed by Popper and considered at 2.2.

The three sequential problems which were identified and for which tentative theories were proposed and different forms of data analyzed to eliminate errors in the theories, together with the fourth problem and theory which remains as the untested conclusion of this report, are set out in diagram 3. The diagram is helpful coming at this point in the report as it provides an overall picture of the steps which were taken in data gathering and analysis and a framework for assessing the appropriateness of the evidence being presented. Logically it is misplaced, as the intention with this investigation is that in the main the theory will arise out of the evidence and is not being tested by it.

On the other hand it is a useful device to assist the reader understand the content of the report and the methodology. The diagram shows with more precision the relationship between the

findings given below and the evidence presented in the report.

i) The analysis of the literature focused on the social process features of curriculum innovation and the importance of the teacher's contribution.

ii) The introduction of the Mode III CSE in physical education was shown by the first analysis of informal data to be progressing successfully. Considerable change in the teacher's role is taking place, and important changes in the physical education curriculum and the constraints are emerging on the teachers' autonomy.

iii) From the second analysis of the informal interviews and contacts it was apparent that the constraints had built up to the extent of being identifiable as system standardization which was partly the result of growing pressure for accountability nationally and the conservatism of examination procedures. Some schemes were being withdrawn and a plateau of implementation was reached.

iv) From the analysis of the two sets of formal interview material, greater understanding of the processes which have led to the survival of the innovation and curriculum-as-practice is possible. Despite the influence of system standardization and effects of falling rolls on the development of the innovation the system has remained sufficiently open to allow some teachers to gain career satisfaction and gratification from a number of sources. These were mainly the very positive response of the pupils to the work and the excitement and challenge of developing a new course. There is some evidence to support the hypothesis that if flexibility and openess are to be maintained in teacher based examinations then more extensive

training and staff development in examination techniques is required.

The form in which the evidence is presented and the report structured is somewhat idiosyncratic, but has emerged from the theoretical orientation adopted and fits appropriately with the accumulative observation and analysis methods developed.

Data recording and analysis are researcher's interpretations of teachers' actions and definitions. Raising questions on and describing the teachers' actions and definitions which is the body of each section of the report, is still the researcher's interpretations, consequently great care is taken to minimize the influence of subjectivity in the data recording. At the same time there are features and issues being raised by these interpretations which call for immediate analysis and evaluation by the researcher and these are scattered throughout the report, but are unlikely to be mistaken for anything other than the researcher's definitions. Similarly at the end of each section the propositions stated as the summary of findings, the diagrams of relationships and concluding models or theories are judgements and very clearly researcher's definitions.

Diagram 3: The Structure of the Report of the Progressive Discovery of Problems Associated with the Implementation of a Grassroots Curriculum Innovation

Data analysis:	first review of the literature.
Problem 1:	innovation theory emphasised the importance of central planning for the successful implementation of change and curriculum innovation, yet evidence in the literature indicates low take-up and endurance rates.

Tentative Theory: successful curriculum innovation does not depend upon central planning, but is to a large extent determined by the level of teacher autonomy and commitment which can be found operating in grass-roots innovations.

Data analysis: first analysis of informal interview material.

Error Elimination: growing constraints emerge in grassroots innovation which threaten teacher automony and commitment.

P.2: How to ensure that teacher autonomy and commitment is sustained when threatened by growing constraints.

T.T.: Because of their strength in a grassroots innovation teacher autonomy and commitment will not be threatened significantly by emerging constraints.

Data analysis: second analysis of informal interview material, document, and second review of the literature.

E.E.: System standardization is too strong and brings about some withdrawals from the innovatory activity.

P.3: How can withdrawals be prevented and innovation survive in the face of system standardization.

T.T.: If negotiation processes associated with the development of the curriculum-as-practice are maintained then the innovation will survive.

Data analysis: Analysis of first and second formal interview material.

E.E.:	With the schemes which survive three styles of operating negotiations emerged. The acceptance model where teachers comply with the restraints, others accommodate in a way which enables them to continue to develop the curriculum-as-practice, others discontinue the innovatory developments retreating from the standardization demands. A fourth response was to retreat from the examination scheme, but find an alternative outlet for the activities which the teacher was developing under the umbrella of the CSE Mode III course.
P.4:	How can negotiation processes which allow for modification, interaction, interpretation and identification to take place be protected when an examination linked, teacher based curriculum innovation is being implemented.
T.T.:	For all examination linked, teacher based curriculum innovation to be durable and dynamic the examination procedures should be open and flexible. These can only work at a level to maintain public confidence, with examiners who are sympathetic to open, interactive systems of working and teachers with knowledge and training in examination principles and practices greater than that which currently exists.

3.2 Emerging Constraints upon Teacher Autonomy

3.2.1 Investigation of Teacher Autonomy and Commitment

The evidence to attempt to refute the first tentative theory, that successful curriculum innovation does not depend upon central planning, but is to a large extent determined by the level of teacher autonomy and commitment which is to be found in innovations, was drawn from the first analysis of the informal interviews. This material was gathered between January 1976 and January 1977 from Board officers, moderators and teachers implementing examinations schemes. The number of schemes being examined by the Board had risen from 19 to 35 and there were now 1 Chief Moderator and 6 Assistant Moderators, a significant increase from the single Assistant Moderator who controlled the scheme before January 1976. This, therefore required the Board to take greater interest in the conduct of the examination in order to get standard performance from all the moderators. The two previous years the examinations had not called for standardization and the one moderator had been allowed considerable independence. Increase in size and numbers of moderators operating the scheme possibly made a step towards formal rather than informal standardization inevitable within an examination system.

3.2.2 Becoming an Examiner of Pupils' Performance

The evidence drawn from the field notes and expanded field notes of the informal interviews in the first year of the investigation was useful in indicating the main early concerns of teachers implementing the courses. By far the greatest number of recorded statements were related to questions of what to give marks for and

how to set up a system for awarding marks. There could be two explanations for this. First that the role of moderator focused attention on examination procedure issues. This is a factor to take into account, but is not the complete explanation. The same pre-occupation is shown in the literature which has been published, professional seminars and other meetings of this examination board. Secondly, that the teachers are confident in their ability to teach but not to examine, and took advantage of every opportunity to enter into discussions to increase their knowledge, skill and confidence in this new sphere of work. Whether this domination persists into the years when the examination has been established and an evaluation expertise developed is a question of interest. It might be that awarding marks in physical education is so difficult and subjective that it will always remain a major concern of teachers implementing examination schemes. It does not arise in the day to day running of a traditional physical education programme in schools, but is only important when the skills of an examiner as well as a teacher have to be developed. Normally physical education teachers have no experience of conducting examinations, and some are quite open about their ignorance of standards for grade levels and the problems created by having no established norms in the subject. This was demonstrated by one teacher during the moderation of his examination marks at the end of the course.

> "I have no idea how to grade them. The grades range from 1 to unclassified because I spread them from top to bottom. As far as I know you might have come along and pushed them all down or pulled them all up".

To begin with, a variety of strategies are adopted to decide where to draw lines to establish the different grades 1 to 5 and

unclassified. Some assume that they have a full spread of grades in the school and allocate the full range even with as few as eight candidates. Others seek advice from members of staff of academic subjects with examining experience and are given advice such as: look for the gaps and draw grade levels there, or advised to use particular percentages which other subjects, with a much more easily standardized examination paper have established over the years as expected grade level boundaries.

> "I had trouble deciding where to put the lines but talked to the Religious Education teacher, who is a vicar, and he said you look for the gaps in appropriate places when you have worked out your scores. What I finally settle on was:
>
> Under 30 unclassified,
> 30 to 40 grade 5,
> 40 to 50 grade 4,
> 50 to 60 grade 3,
> 60 to 70 grade 2, and
> 70 and above grade 1".

Even though there is little standardization of schools examination papers there is still a tendency to believe that grade level boundaries should be drawn at 70, 60, 50, 40 and 30. The suspicion is that this teacher was responding more to that myth rather than really searching for the emerging groupings in her list of scores. To begin with even a member of the Board moderating team thought that the range of marks given above had universal application.

Even teachers with experience of examining in other academic areas did not appear to transfer their knowledge and were among those most ready to admit to the difficulty of drawing grade levels.

> "This is the first examination and it has been difficult as we don't have any standards to work from. I did teach 'O' level biology but it is different and comparison was not possible".

Competence in evaluation techniques is not something possessed by every teacher but has to be developed. Unexpectedly some physical education teachers find as much difficulty in assessing practical work, of which they have considerable experience, as theory. A teacher who commented that:

> "The practical has been difficult to assess, it was easier with theory marking".

Teachers constantly use labels like, very good games player and natural athlete, but rarely have clearly worked out criteria for skills in the middle of a normal distribution. The lowest level of ability can be fixed by awarding the lowest mark for the uncoordinated.

3.2.3 Adjustment to Perception and Attitude

Other changes are taking place in the teacher's knowledge, skills, perceptions, attitudes, expectations and consciousness. Some of these changes come about when teachers face the reality of putting into practice the course which previously only existed on the paper presented to the examining board.

The limited ability of the pupils in grasping or being motivated by some of the academic content soon changed the perception of some of the teachers of the course and led to early requests for changes. One teacher proposed changes in the course explaining that the headteacher was unhappy at the level and nature of the course and

that, having to teach the course she agreed with him.

> "It was too hard and too theoretical, and the pupils were warning others off the option on the grounds that it was too difficult".

Similarly the range of abilities as well as the limitations of some of the groups of pupils forced teachers to change their expectations and to re-think their teaching organisation. A teacher in a city estate comprehensive school requesting a modification after the first year the scheme had been examined, explained:

> "The submission here was submitted before I had tried it out. I tried to do too much and to do it in the right detail, but I had to cut the syllabus down. We have three groups and there is one with the better boys whose practical and theory is very good, but in the other two groups with boys of lesser academic ability their practical is good but theory work is poor. I have cut out the project as their standard was deplorable".

Although in most cases when a shift in expectation occurred it resulted in a request being made to make the course less difficult, it was not always in the direction of devaluation. Goal displacement did occur in some cases towards emphasising the needs of Grade 1 level candidates at the expense of Grade 3 and 4 levels when it is seen unexpectedly that the more able pupils are interested in taking a C S E course in physical education. One teacher expressed this benevolent concern or competitive aspiration breaking through when he commented:

> "I have to keep stopping and reminding myself who the C S E is for. Let's face it C S E is not for high flyers academically, but to provide something for those kids at Grade 3 and 4 level".

When a physical education teacher starts implementing a C S E course it is a step into a work generating programme. A tremendous change in attitude will have to take place in any teacher who has previously worked only between 9 a.m. and 4.30 p.m. Physical education teachers are as good as any at organisation and management of which they have experience, but need to spend a lot of time building up classroom teaching skills and improving their ability at setting and marking examination papers. At a meeting of teachers to discuss the provision of in-service courses for physical education teachers, a member of the group who had developed his own course drew attention to this.

> "Physical education teachers need a lot of help and we ought to put on a course telling them how to go about doing a C S E course. They don't realise how much the work load is increased with preparation and marking. The teachers ought to be made aware of what they are taking on".

Not only does developing and implementing a course call for a generous attitude to the time made available to do the job, but it is often for a particular kind of work. When a physical education teacher says "You get fed up with marking", it might be the response of an individual whose inclination and experience has produced a disposition to sensory rather than cognitive dominance. It could mean that the teacher who is patient and generous with time and energy for physical activities in school might not find it easy to transfer the commitment to those more desk constrained. This possibility was highlighted by a head of department's comment in a school where the C S E course was the responsibility of one of the teachers in his department.

> "Look at this. It is supposed to be teaching P.E. He has to have a brief case and a filing cabinet. Sometimes I think that all the physical is going out of it. Who would have thought ten years ago it would go like this".

Broad changes in curriculum content are referred to by all the teachers i.e. inclusion of different aspects of related theory, time spent in classroom teaching of practical theory, assessments and examinations and extra time available.

3.2.4 Development and Dissemination Difficulties

Whilst evidence was being collected informally the teachers said little about the reasons for the development of the C S E courses. Statements justifying their implementation in physical education were limited to claims to be providing opportunities for pupils who are not at all academic and would be expected to gain Grade 3 and 4 level passes, and also to give the chance for academic children in a non-academic school to become involved in examination work.

Having satisfied themselves that developing a scheme is justified, the problem then becomes one of overcoming complete ignorance as to how to go about it. In some cases they rely upon other teachers who have implemented a scheme. This was indicated by one teacher operating a successful course,

> "... many people visited the school to gain insights in running a scheme and for help starting it up".

Most wanted to go away with his syllabus which he resisted. It was the local authority adviser who sent people along as:

> "... he himself did not approve of C S Es in physical education".

Others approach the Board or one of its moderators direct. One teacher wrote:

> "I am head of boys' Physical Education and am interested in starting a C S E Mode III. The P.E. lecturer at the University kindly gave me your name as a moderator for P.E. and said that you might be able to advise me on the standards required, the type of work to be covered and possibly a sample syllabus or exam papers".

Personal contacts of a fortuitous kind appear to play a significant part in the accumulation of sufficient knowledge and the motivation to begin to develop an examination course. Significant outsiders providing the motivation to begin a course can be influential in as casual a way as seeing the scheme being implemented in the school in which the physical education teacher's wife worked. One woman physical education teacher explained that:

> "The P.E. man developed the idea following discussions with the P.E. woman at Worthy High School who had started a Mode III scheme. His wife is on the staff at Worthy High School".

Judging from what a number of teachers say an information and experience famine is identifiable, and development and dissemination is difficult. A partial explanation of this famine is that the grassroots pressure for development of examination courses tends to meet with rejection by the physical education establishment therefore only a very limited amount of in-service teacher development has been made available.

3.2.5 Course Implementation Issues

Observations of the influence of the school situation upon the physical education course are divided into comments on school characteristics and the response of the pupils to the course. The school characteristics to which attention was drawn by teachers were the preponderance of high level physical and academic candidates in some institutions:

> "The school is highly selective and successful and many of the girls opting for the course are academically as well as physically among the best in the school".

This was presumably with the intention of convincing the moderator that he ought not to be surprised to have to agree to comparatively high marks. On the other hand, other teachers warned of low schools academic aspirations and low level skill in the use of English language to possibly excuse low level work. One teacher when questioned about the writing ability of the pupils replied:

> "Yes the word we used was appalling. It is the way they teach English here, concentrating on expression".

Reporting the response of the pupils to the course in one case focused upon a fundamental conflict in C S E physical education. The physical education teacher described difficulties being experienced by a boy who loved physical education in action but not in theory, and how this generated friction between staff and boy.

> "He has been a problem and I have talked to his dad about it, but he is one of those who will just be unemployable. He was in tears once because I kept him off games to get on with his project - a grown lad in tears! He was in the school teams all the way through the fourth year and I think that is another reason he doesn't

do much as since dropping him he doesn't like me".

This emphasises an inclination towards promoting the curriculum-as-fact and not practice, because of the influence of the examination.

A teacher moving away from a school, when a scheme is being implemented, creates problems which are greater in physical education than other subjects. Physical education teachers are quite often on their own in a school, and physical education teachers with C S E examination experience to replace them are rare. Heads have to be satisfied with an assurance from the teacher they appoint that they will attempt to implement the scheme, rather than make a judgement on past performance. One course was modified within a year of starting because the teachers remaining were teaching a course created by a teacher who had left and were not happy with what they were left doing.

There were other instances of a teacher finding difficulties in relating his own characteristic methods of teaching to a predecessor's programme structure. A teacher inheriting a developmental scheme of work, who prefers to work in units or modules of work, can manage, but will find some problems. This happened with a teacher who came straight from college into a school to replace the only physical education teacher. He had to be advised to re-submit the proposal organised in modules which was the way he had been teaching the course.

Similarly, the content of a programme will present problems in some cases, where a particular range of practical or theoretical

studies might not be possessed by the replacement. That a school whose scheme was developed by one teacher but subsequently handed over to another member of the department has fewer problems was indicated by a teacher reporting:

> "I am leaving this school but Malcolm is bringing along the present fourth year group".

It does indicate that there are advantages for large comprehensive schools in instances of staff leaving a scheme.

Another difficulty encountered by physical education teachers, not experienced by teachers of more established academic subjects, is the absence of literature written for the children themselves,

> "McIntosh is too difficult for these children and it presents a terrible problem not to have texts in history of P.E. and the socio-cultural area".

This is exaggerated by the eclectic nature of the theory originating in a variety of subject disciplines.

3.2.6 Nature of Physical Education Knowledge

There is no clear acceptable definition of what physical education knowledge can be examined at the C S E level, and both teachers and Board officers are negotiating in an attempt to establish the core and the boundaries. Looking at the early submissions there is infinite variety and considerable differences between schools with very few common features. The teachers were in the position of defining their own work if agreement could be reached with the one moderator, who at this time had very little experience in the country as a whole from which to draw and make judgements on the

proposals being put to him. With the early proposals the teachers were in the position of defining their own work, but over the years the Board and moderators are beginning to limit what the teacher is allowed to do, although in theory the Mode III is a teacher focused examination. This was very vehemently pointed out by one teacher who was told that next year he would have to submit a biennial review of the scheme and that the regulations had changed since the original submission. For example, he was told, courses must now have a practical and theoretical weighting of about half each and his practical at the moment was only 35%.

> "That's not right; Mode III is supposed to be the teacher's examination".

What knowledge can reasonably be taught, then examined, is not formally defined anywhere and the tendency, to begin with, is to make it too hard and too theoretical, and for there to be a transfer of college experience. Teachers fall back on college of education definitions evolved for the purpose of teacher training. This leads to early requests for change of content to make courses more appropriate for secondary schoolchildren. An example of this was quoted earlier.

What the balance of theory to practical should be has very wide interpretations, with the Board progressively defining the weighting to the annoyance of a number of teachers. Teachers tend to over-emphasize practical ability when it comes to awarding grades. When a teacher was asked about what appeared to be an inflated grading of a pupil he admitted:

> "True you just give him a fact and he will just remember it and repeat it without putting much thought into it, but he is very good practically and he gives everything he has got to every-thing he does".

What is examinable practical ability is a crucial question. What practical quality or skill is considered to be worthwhile and therefore examinable has no clear definition. Simple achievement is one aspect, but teachers are offering schemes which also include rewarding progress.

> "What I have been trying to do is to assess the pupils on the amount of learning during the time of teaching of the block".

Another distinction which is important, although no negotiation on the point has yet been identified, is the awarding of marks for the quality of movement as defined in womens' gymnastics as contrasted with the level of achievement more characteristic of mens' work. Many teachers are anxious to give the hard worker or possessor of unusual skill recognition,

> "... one is a national class cyclist but because we don't include a choice this can't count. We started by trying to offer choice but in the end had to restrict it to soccer, athletics and basketball".

The Board as represented by its administrators does not really want to be awarding Grade 1s for running, jumping and kicking a ball about and the view was represented by the comment of one that:

> "The P.E. exam ought not to be stop-watch dominated. Competition turns people away from activities and I personally don't really appreciate the demand for exams in P.E., but if there are going to be exams then it ought to be possible for a spastic to get a good grade in C S E physical education".

Teachers tend to define academic and practical ability in very loose general ways and have to be pushed into making criteria for performance explicit. Not unnaturally some teachers are more organised and thorough in establishing and using criteria for practical work, the aspect with which they are more familiar and for which there are no established norms. One teacher explained:

> "We have typed out and given to each member of the department these lists of activities with these points to look for, then we give them a mark out of 10 for keeping these points in mind. It is not possible to be more precise than that".

Even in the practical area, when visiting teachers in their schools and informal interviews, it was found that with many it was necessary to get them first to describe how they recognise good performance then get them to write it down. Otherwise they would not have produced criteria.

Projects present a particular problem for physical education teachers.

> "We have no idea what grades to give to projects".

Some teachers appreciate the difference between a worthwhile piece of original work in contrast to a collection of cuttings from books.

> "Some of the girls' projects are just a collection of extracts from books".

The general impression, on the other hand, is that quality is defined in terms of neatness and application, rather than levels of analysis and individual ideas.

What talents are being rewarded is not only the concern of the teachers but headteachers' intervention is appearing. They are already pushing, or supporting teachers in attempts to change content, criteria and levels of grades. They want to see the physical education which they think should be highly rewarded by the examination, accepted by the moderators. One headteacher called for a meeting with the Chief Moderator because he was concerned that,

> "Children with ability to gain academic G C Es might be choosing P.E. unwisely if Grade 1s are so hard to get".

3.2.7 The Power of Teacher Autonomy and Commitment to Deflect Emerging Constraints

Evidence from the early informal interviews and records of meetings indicated that the development and implementation of the Mode III C S E in Physical Education, in the region which is the concern of this study, is successful on the criteria of uptake, but it was too early to draw conclusions on durability. This has occurred in a very open, unstructured situation.

The grassroots innovation was growing. The teachers implementing the schemes, have been involved in significant change and engaged in a considerable amount of negotiation. This negotiation had progressed to the level of dialogue, accommodation or objectification on the following issues:

(a) Great anxiety and ignorance is demonstrated over the task of becoming an examiner and building up appropriate knowledge, skills, attitudes and consciousness. Very little opportunity for preparation in this aspect of the physical education

teacher's work had been offered in initial and in-service teacher training.

(b) When the course starts teachers have to change their perception and attitude in relation to pupils' abilities, their investment of time in the course and the non-practical features of the work. If the test of objectification of negotiation were to be unanimous agreement following widespread dialogue on an issue, then it would certainly be achieved on the recognition of the incredible amount of time which needs to be spent by teachers in developing and implementing their own Mode III Physical Education courses.

(c) Another feature on which there is general agreement is the knowledge famine surrounding the courses. Every teacher involved agrees the extent to which the development and dissemination was dependent upon fortuitous contacts.

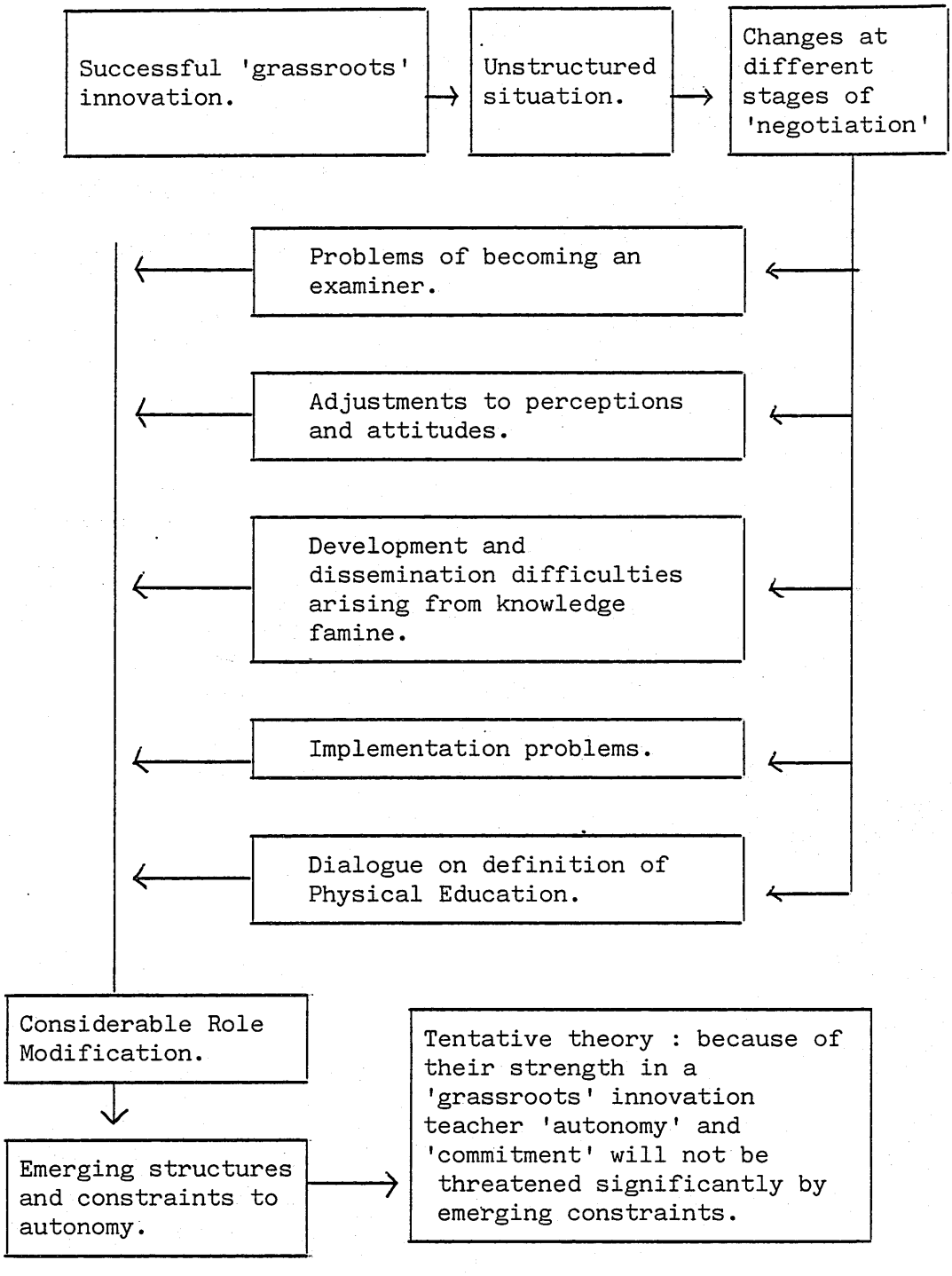
(d) Issues which become apparent while the courses were being implemented and to some extent created problems for the teachers were: recognition by teachers of the influence of the features of the school situation on examination performance; the conflict of some pupils' interests with examination demands; the problems associated with coping with staff changes in such an unstructured situation. Even text books which could provide some continuity do not exist for these courses.

(e) An important dialogue is taking place on the definition of physical education knowledge which is appropriate for examination courses. At this stage of development very little structure had been imposed and considerable individuality existed. Negotiations with and within the

Board on balance of programme, content and criteria for success have not been intense and in the profession generally sporadic. In the absence of an objectified definition a number of teachers have reverted to adopting training college definitions.

Some innovation had occurred in the physical education curriculum and considerable modifications have taken place in the physical education teacher's role. Although it is a grassroots innovation, constraints are appearing which teachers might perceive as a threat to their autonomy and lead to a reduction of their commitment. On the other hand there are teachers who prefer the situation to become more structured. It is possible that the teachers most likely to maintain the impetus of the innovation, rather than passively implement a Mode III course in physical education, are those sensitive to the emerging constraints, who will feel their autonomy threatened and tend to be less committed. A tentative theory is proposed, that because of their strength in a grassroots innovation teacher autonomy and commitment will not be threatened significantly by emerging constraints.

DIAGRAM 4 Emerging Constraints upon Teacher Autonomy



3.3 Growing Structure and System Standardization

3.3.1 Extent of Growth of Constraints

The first analysis of informal interviews, meetings and documents established two important developments, that considerable role change had taken place in relation to the innovation and structure and constraints were beginning to emerge. The second tentative theory proposed that constraints to this innovation would be deflected because of the strength of teacher autonomy and commitment which is associated with grassroots innovation. The second analysis of informal meetings, interviews and documents set out to discover what was happening to the emerging innovation particularly in connection with the growing structures and to what extent the constraints were continuing to grow.

3.3.2 General and Regional Educational Background and Development of the Innovation

The second analysis was of material collected between January, 1977, and July, 1982. In that time important changes were taking place in educational thinking, central government policy and national examination planning. Callaghan's Ruskin speech given in October, 1976 signposted a general move towards conservative attitudes and a concern for standards in educational planning and policy. An example of this was public concern that if a single system of examining at 16+ was developed it should be dominated by G C E not Mode III C S E traditions and procedures.

There is evidence that the Board responsible for this examination responded positively to this change in thinking and policy. The

secretaries began to draw attention to increased scrutiny of Mode III examinations, as indicated in the following statement on frequency of use of examination questions.

> "Questions should not have been used in previous five years to avoid criticism of breach of security particularly when so much criticism is being levelled at Mode III."

There was a very clear shift in policy and practice and another secretary reported:

> "The system has now been changed and every Mode III proposal when it is received from the Chief Moderator is first of all passed to one of the Mode I secretaries who adds his comments before passing it on to the secretary in charge of Mode III. We don't have to pay attention to everything, but we are trying to make Mode III more like Mode I".

A system of establishing grade boundaries statistically was introduced. This eased the task of moderators, but caused teachers to claim that mechanical procedures which lead to injustice were being employed. The new system was for the moderators to determine the key 1/2 and 4/5 grade boundaries. The remaining grade boundaries were arrived at by using the formula, based on normal curve distributions, applied in grading Mode I examinations. A book of tables was provided which gave the full set of boundaries which applied for any pair of Grade 1 and Grade 4/5 boundaries. Previously the moderator had made decisions on all the grade boundaries by inspection of all the work.

The Board's more rigorous scrutiny over the award of marks was not limited to Mode III examinations. This was indicated in a written reply from the Board to the Chief Moderator in a dispute over the amount of subjectivity permissable in the assessment of an outdoor

pursuits practical activity.

> "While assessment in some of the Board's examinations is subjective, it is not right to say that the Board does not question this. All Mode I Panels are currently being asked to give further attention to the question of what they give marks for in their examinations".

The tightening up of regulations and procedures was also demonstrated by the publication in January, 1980, of a detailed sixteen page 'Notes for Guidance for Mode III Moderators'. The previous versions of these guidelines had only been four pages in length. It was a tightening up recognised by all the parties to the Board's decision making groups: teacher members of Board's statutory committees, the officers and teacher members of moderating teams. These three groups do not always agree on policy and practice, and the one opportunity in the year when it is possible to identify and discuss differences is the Annual Award of Grades Meeting of the Curriculum Sub-Committee. This is attended by the Board officers responsible for Mode III and Chief Moderators of all the Faculties, as well as the sub-committee members, who are in the main headteachers. At the July, 1980, Award of Grades Meeting the following analysis of recent developments by the Social Science Mode III Chief Moderator went uncontradicted:

> "There has been a sharp decline in Mode III schemes this year in Social Science. The recent toughening of the Board regulations is partly responsible, but increasing the examination criteria demands and generally becoming more rigorous is necessary to meet the demands of the expected 16+. It is just sad that there is a dilemma between educational and academic justification".

Although these conservative developments were taking place the number of C S E schemes in physical education continued to increase quickly, eventually levelling off. In 1978 the Chief Moderator's

Annual Report indicated that the number of schools involved had grown to 44 and candidates to 942. The height of the growth was reached in 1981 when the Chief Moderator reported that there were 10 moderators engaged in evaluating the work of 44 schools and 1072 candidates. Since 1981 there has been a slight fall in numbers.

3.3.3 Growing Structure

The evidence indicates that the structural constraints are continuing to grow and that is the dominant theme emerging from this analysis of informal meetings and documents.

3.3.4 Board Definition of Physical Education

One aspect of the tighter policy of the Board was an attempt to establish very clearly defined titles for examination subjects, reflecting the belief that courses acceptable under these titles should have clearly defined boundaries, content, internal relationships and coherence. This indicates a preference for an absolutist, epistemological or curriculum-as-fact view. The earlier practice tradition of Mode III which encouraged interdisciplinary courses to cater for particular situations and groups of pupils, had resulted in a proliferation of titles. Attempting to define subjects, and physical education in particular, was an important step in increasing structure, standardization and control.

The first official Board intervention in defining the title and content of physical education schemes was set out in an Examination Board Sub-committee minute of March, 1976.

> "It was agreed that a distinction should be drawn between Physical Education as a general leisure activity and physical education as a serious examination subject in which a candidate should become aware of the core of knowledge in areas such as physiology, anatomy and first aid. Examinations in Physical Education would therefore seem to embrace two distinct aspects; the academic and the physical, each of which should count for roughly half the total mark. The academic study should be examined by orthodox methods. The assessment of the physical aspect should not take the form of stop-watch type measurement but should reflect a candidate's general physical abilities".

This definition did not raise too many objections from teachers or moderators. The requirements to avoid stop-watch type measurement for some practical work appeared at the time, to the physical educationists who made up the moderating team, to be unrealistic but not very important. At a meeting of moderators the dissatisfaction at the over-emphasis on anatomy and physiology was expressed by most of the moderators:

> "There is more to the theoretical study of physical education than anatomy and physiology; sociology for example".

But as the wording in the minute did not appear to make anatomy and physiology obligatory it did not cause great anxiety.

A much clearer, explicit policy on the definition of subjects in general (not only physical education) and the content associated with particular titles began to emerge. In June, 1979, the Curriculum Sub-committee agreed a policy on combined syllabuses.

> "Consideration was given to several specimen submissions under Mode III which sought, in different ways, to combine material from two or more established subjects. These submissions were scrutinised from the points of view of the knowledge and the skills involved. So far as knowledge was concerned, it was noted that there was a general

> tendency for increase in the number of subjects combined to be associated with lessening of penetration".

The January, 1980, Notes for the Guidance of Moderators also for the first time included a clear statement of policy of subject titles.

> "To say that the title must be an accurate description of the content is to simplify the issue unduly. Attempts to be comprehensively 'accurate' lead to over-lengthy titles. It may be that difficulty in finding a simple, broad description of the content of a syllabus will point to the fact that it does not consist of a single area of study, but is made up of parts of areas which are not genuinely related. The usefulness of certification on such a syllabus must be questioned. While, for example, Home Maintenance and Citizenship may be a suitable title for a very valuable course to be taught to school leavers, it is doubtful whether a grade in such a subject would have much meaning for a user of certificates".

At the same time Chief Moderators were asked to reduce the number of titles used for schemes in their faculties and to provide definition of all of the titles used. Physical Education Faculty titles had by now been reduced to three; Physical Education, Outdoor Pursuits and Physical Recreation. The Physical Education Faculty response to the request for definitions was a relativist statement emphasising the acceptance of a definition based on what is established as working practice in schools (Appendix D). The differences in the stance being adopted by the moderators has been evident on a number of occasions since the Faculty statement was made. In correspondence concerning the content of an outdoor pursuits scheme requiring reference to the definition of the subject, the letter from the Board focused upon the issue of a unifying theme.

> "Another consideration is whether a candidate who shows high attainment in one part of the syllabus can reasonably be expected to show high attainment in all other aspects of the syllabus discounting the effect of any general component of intelligence. Without an indication of a unifying theme there is a serious danger that the Board will be creating an artificial subject".

The negotiations on subject definitions have continued and outdoor pursuits has been the most recent focus of the debate. A conversation with a Board secretary elicited a very clear statement of the view of the Board on unifying themes, and an examiner's, as opposed to a teacher's perspective was identified.

> "But what the teachers consider important about teaching is not important. It is what the Examination Board consider worthy of an examination and with outdoor pursuits there does not appear to be any generality of techniques. What generally has cooking a breakfast in a tent got with anything else in the course?"

From the negotiations on the definition of the subject an obligation arose for all schools to include a component of anatomy and physiology. The earlier guidelines were not considered sufficiently strong and a report of the meeting of the Curriculum Sub-committee in October, 1980, indicated very clearly:

> "In the light of inspection of some existing schemes in Physical Education, the Sub-committee agreed that they should require a physiology content in all Mode III schemes in Physical Education. It was further felt that a 20% weighting would be adequate, though this would not include first aid. Comment was made that knowledge of specific items of information relating to the history and personalities of games and sport was not a suitable requirement of these schemes".

This caused some concern to be expressed by the Board moderators and ultimately many teachers. It was reported to the Award of

Grades Meeting in July, 1981, that over half of the existing schemes would have to be modified and at the annual Moderators' Standardization Meeting in March, 1981, it was pointed out to the officers of the Board that skill acquisition was more a unifying theme than anatomy and physiology. A paper setting out the moderators' view of the nature of physical education and the importance of practical skill and knowledge of practical activities rather than anatomy and physiology was submitted to the Board in September, 1981, at the request of the Chairman of the Curriculum Sub-committee (Appendix E).

Other content problems had been encountered. Attention was drawn at one Moderators' meeting to decisions which needed to be taken on the choice of a broad or specialized programme. In one area of the country the schemes being developed were concentrating on a limited range of practical activities in the interest of depth of study and practice. There were as yet no regulations indicating acceptable numbers of practical activities, but criticism of courses with too few or too many activities was emerging and moderators were applying informal requirements to keep the range between four and ten. This did not require much change from many schools, but some did have to accommodate:

> "I went along to one school and they said that they did two practical activities at first which meant they could get a good C S E for high ability in two sports. I didn't want to do that, but neither did I want to make it too wide. They also said they had problems with the anatomy and physiology as those that had done some human biology became bored and the others found it too difficult".

The biggest content problems are related to the theory rather than the practical, which is to be expected considering the traditions of the physical education in secondary schools. This

was indicated by a teacher who was considering developing a course, but anxious about the amount of theory expected.

> "It will take time to get them into this, as at the moment the only writing they do for P.E. is as punishment if they forget their kit".

3.3.5 Incremental Effect of Introducing Standardization Procedures and Structures

There was some tolerance of subjective assessment, and attempts to evaluate process as well as product, in the earlier Mode III schemes. Greater objectivity and standardization were called for to accommodate the emerging conservative climate. The introduction of standardization strategies tended to have an incremental effect by creating the need or opportunity for even more structuring.

Before 1976 the Board asked teachers to provide a statement of aims and objectives to establish what would eventually be examined. This the Board found did not help them to get a clear explicit statement to which the examination ultimately set could be related. This practice was superseded by eliminating aims and objectives and asking only for examination objectives to enable an easier check to be made of the examination procedures being proposed. This was necessary to increase the control of the examination. The problem was described by a Board secretary.

> "Teachers put down a whole string of 'high-falootin' aims without relating them in any way to what was eventually examined. We now ask for abilities and skills for which marks will be awarded".

One result of this new practice led to difficulties being experienced in stating the examination objectives of relative or personal goals

in an acceptable, objective manner. These had been allowed in some physical education schemes but as a result of this development the practice was discontinued.

> "It was agreed that it was not appropriate, in physical education examinations, to set personal goals for candidates based on their ability at the beginning of a two year course and to award marks on the extent to which these personal goals had been achieved. It was agreed that, instead, all candidates should be assessed against the same standard of attainment in the practical aspect of the subject".

An end of course test became more or less obligatory despite continuous assessment being considered by many teachers to be the most important virtue of Mode III. The Board was cautious in introducing this requirement, but nevertheless in physical education there are no schemes surviving which do not have an end of course test.

> "The question of whether an end-of-course test is necessary must be considered. While it is universal under Mode I, some teachers feel that one of the most valued aspects of Mode III in that it allows a candidate to be assessed entirely within the learning situation rather than in an exercise which reproduces only imperfectly the conditions in which the candidate's learning would be applied. Both extremes (all marks being awarded on an end-of-course test or 100% 'continuous assessment') are widely questioned. The compromise of half the marks for the examination being allocated to an end-of-course test and half to some more subjective assessement of ability made by the teacher usually has been readily accepted by the Board".

The phasing out of oral testing was not so delicately handled. A number of physical education teachers found this a useful device for enabling good practical performers of limited academic ability to demonstrate just how much they knew about the activities being studied. These were discontinued as a general principle without

consideration of particular cases.

A means of ensuring that changes which were being recommended were being carried out was introduced in a form of biennial reviews of all schemes.

> "Under the Board's biennial review procedure all Mode III submissions examined for the first time in 1976 must be resubmitted by 31st October 1978 for first examination in 1980; all Mode III submissions examined for the first time in 1977 must be resubmitted by 31st December 1978 for first examination in 1981".

The Instruction for Mode III Moderators - 1979 Examinations listed a number of changes which the Board required and which should be drawn to the attention of schools at the next biennal review.

> "Some schemes are due for biennial review at the time of the 1979 examinations. ...It is not sufficient to assume that if a scheme has been acceptable in the past it will continue to be acceptable. Particular attention should be given to schemes which:
>
> (a) contain oral testing where oral skill is not specific to the subject;
>
> (b) have combined titles, e.g. Design in Wood and Plastics; Dance and Drama;
>
> (c) have no end-of-course test;
>
> (d) are assessed on a modular basis; i.e. where the final mark is obtained by combining marks from assessment of work done in self-contained areas;
>
> (e) have their syllabus content stated in terms of a teaching programme".

The biennial review was later replaced by annual reviews as a means of increasing control.

The effect of various standardization measures, common content to all schemes, an obligatory end-of-course test, together with an

increased number of schemes, now made it possible for the Board officials to organize annual Moderators' Standardization Meetings, which previously had not been worth attempting.

> "A model standardization meeting would be one following Mode I practice. Read through a number of scripts and assess them in form of grades for each paper indicating either above or below grade boundaries, tabulate the results, draw lines of greatest agreement then discuss the results".

As well as again demonstrating the incremental effect on structure of introducing standardization procedures it also provided another example of Mode I procedures being adopted. Previously it had been necessary to be satisfied with more open negotiation between moderators for Mode III but it was now possible to utilize Mode I practices which might or might not be suitable.

3.3.6 Ambivalance of Moderator's Role

The pressure to increase standardization and structure is not only the result of increasing conservative values in society and education to which the examination boards are being required to respond. It is also the product of the bureaucratic mentality which appears to be intrinsic to any examining activity and which also tends to be espoused by people taking up the role of examiner. Some evidence emerged which pointed to conflict in the perspective of teacher and examiner, particularly when it came to the examination of physical education. The moderators who are teachers employed by the Board to carry out an examination function are particularly vulnerable to this conflict.

The different views on defining the nature and content of physical education and outdoor pursuits between the Board and the moderators

was the difference between the perspective of the teacher and examiner. What has come to be recognised over the years as worthwhile content from the point of view of teachers is not necessarily worthwhile content in the eyes of an examiner.

The main problem with physical education from the examiner's perspective is practical work. It is not easy to evaluate and the examining tradition is an academic one. This was clearly stated in a letter from the Board to the Chief Moderator.

> "In any event, I think the notion of the C S E as an academic examination would require the Board to err on the side of requiring too much anatomy and physiology rather than too little".

A Board secretary expressed many of the examiner's values in relation to physical education in a conversation concerned with the planning of a Moderator's Standardization Meeting.

> "We might try to identify features displayed typically at 1/2 and 4/5 boundaries. We are never going to achieve Mode I, or other subjects with written evidence accuracy. In the last resort examining is a matter of judgement but we try to make that judgement as accurate as possible. I am sceptical of the way physical education developed as an exam subject. It might be good educationally, but it demands rather different skills to develop the subject for an examination. I much prefer more controlled situations. Sounds bad to say this educationally. For example, often not comparing like with like which might be good educationally but not good examinations".

It appears to be assumed by some Board secretaries that teachers' and examiners' perspectives must be different.

The relationship of the examiners' and teachers' perspective is an important issue for Board Moderators. The role of a Board secretary is clearly determined by the priorities of the examiner's perspective, but a moderator's role demands that both an examiner's

and teacher's perspective be adopted. The C S E is considered to be a teacher controlled examination and Mode III to be particularly teacher orientated. The employment of teachers as moderators is seen as an element of teacher control which was drawn attention to at a meeting of moderators by a Board secretary.

> "The C S E is a teacher controlled examination but these are the mechanisms for maintaining teacher control: the moderating teams and committees of teachers".

There has been a change in the expectation of the Board in how the moderators deal with new proposals. With the submission of the early proposals interaction was encouraged and the moderators were expected to visit the schools which were putting forward proposals in order to help them get it right. The role of facilitator and course developer was not seen as being in conflict with that of judge and examiner. The result was that in the early days considerable teacher training interaction took place. This role was described in the Chief Moderator's Annual Report to the Award of Grades Meeting in July, 1978.

> "Physical Education teachers are getting better at the academic aspects of the work in which they have very little previous experience, but the moderator's still find it necessary to become involved in teacher training. Because the moderators are prepared to engage themselves in this way there appears to be some improvement in the level of skill demonstrated in setting examination papers and the quality of the projects produced by the children".

The facilitating function described in this report was found acceptable by the members of the Curriculum Sub-committee. It was clearly necessary as many submissions were vague and superficial, and demonstrated a knowledge famine. What the teachers required was not the information to include in a scheme, but help in making explicit what they would like to do and could do within the

examination regulations.

The Board policy changed to discouraging interaction and the teacher training function.

> "It is important that the Moderator should bear in mind that he is an adviser to the Board regarding acceptability of examinations for the Board's certificates. He is not concerned with the teachers' role of preparing candidates for those examinations".

One reason for this was a clear view of the function of the Board as being that of conducting examinations not facilitating course development. This change was indicated in a written reply from the Board to a moderator who had asked for permission to visit the school to perform the facilitator task that in the earlier years of doing the moderators job he carried out automatically and which he had come to believe saved considerable time and effort on everyone's part. In a written reply he was told that it was not possible to sanction his visit as it was important that there should be no suggestion that the Board is providing a general advisory service for teachers.

Another reason for discouragement was the fear that too much interaction with the teacher responsible for a scheme might reduce the moderator's objectivity. In addition the teacher training role was seen as calling for different skills and interests from that of the examiner according to a Board secretary.

> "Moderators are not employed by the Board to be teacher trainers. As P.E. teachers it is permissable, but the Board can't do what the local authorities are not prepared to spend on doing. It is they who are asking for an examination in P.E. If moderators were expected to give advice on teaching it could interfere with recruitment. Some who were prepared to do the marking might be scared of this expectation".

The interactive process in the moderator's role is important and not always easy to control. It is a tenable theory that the more interaction taking place the less of the necessary detachment and objectivity for an examiner there is likely to be in the relationship between teacher and moderator. The opposing view is that familiarity brings with it understanding and relatively accurate long term evaluation. For a number of reasons the relationship cannot always be maintained at the friendly, facilitator level and opposition has to be registered. When the examination development was quite new, and the moderators relatively inexperienced, the necessity to adopt an antagonistic stance was indicated at a Moderators' Meeting.

> "It has to be recognised that most teachers are not in a position to know what relative standards are for the award of grades in this subject. In addition some teachers identify with their students' performance and attempt to inflate their grades".

The examiners' task calls for judgements to be made of the teacher and his work which are not always flattering. This process was described at a Moderators' Meeting.

> "You also get some ideas very quickly of the standards the teacher is setting when you look at the practical and listen to what he says about it. The accumulation of impressions from a number of areas enables you to make better judgement on the standard of the work in the school. This indicates that not only do we use our judgement on individual children, but use our assessment of the school and teacher to help determine what are the standards and what individual grades should be awarded".

The same process was described by the Chief Moderator of another Faculty at an Award of Grades Meeting.

> "I make a judgement about the teacher whether or not they are strict, lenient, consistent or inconsistent markers on theory exams and this will apply similarly to their judgement on practical work".

This opportunity for negotiation and a holistic assessment of a teacher's work and its relationship to children's performance as indicated earlier is seen by some, not to be a subjective pitfall of Mode III examining, but a distinctive virtue. It is argued that it leads to a more acceptable balance of examination validity and reliability than that achieved by Mode I methods alone.

In many cases it is a conflict form of negotiation rather than a supportive dialogue. At a Moderators' Meeting a moderator described how he intended to conduct his next visit to schools to standardize marks.

> "This time I am going to go in and be more definite about what I want to see, for example, let me see candidate 'X' do high jump".

He was saying more about the assertive manner he was planning to develop than what he was going to do.

The moderators are teachers and work for the majority of their day from that perspective, but they have to take on the examiner's perspective at particular times. This role ambivalence is likely to effect the carrying out of the moderator's role and negotiations with teachers over proposals and examinations. How the moderator handles the conflict between teacher and examiner, facilitator and judge, supportive and antagonistic mentor, involved and detached examiner, subjective and objective assessor, will influence the peformance of the task. This has not emerged as an issue central to this investigation and evidence has not appeared indicating what that influence is.

3.3.7 Overt and Covert Effects of Economic Limits

As well as ideological objections to developing the teacher training function and allowing more time for interaction with teachers there is the need also to recognise economic limits. These limits influence the efficiency and form of examining. An explanation of increasing financial restraint was provided by a Board secretary:

> "It is not possible to pay for two moderation visits as we have all sorts of bodies breathing down our necks to cut down costs".

Limitations were also placed on Meetings of Moderators. A special appeal had to be made in the Chief Moderator's Annual Report at an Award of Grades Meeting in 1978 to continue the practice of having two meetings each year. This second meeting was being threatened on cost grounds. The dispensation was allowed only in the early years of examinations in physical education and standard procedures were expected to apply latterly.

3.3.8 Examination Procedures: New Standardization Demands of Board and Moderators

The standardization of Mode I examinations which are norm referenced is a relatively simple operation. Transferring this ambition to Mode III which is implicitly criterion referenced is a different level of ambition. Comparisons are being made not of hundreds of scripts on one examination, but dozens on a variety of examinations. This is the basis of the question "Is Mode I style standardization the answer for Mode III moderation? Although Mode III was seen as being to some extent criterion referenced in terms of particular examinations, it is still expected to fit in with broad generalized norms.

"The grades awarded in examinations for the C S E are defined as follows:

Grade 1 Describing a standard such that the candidates might reasonably have attained Grade A, B or C at Ordinary Level of the G C E examinations had he followed a course leading to that examinations.

Grades 2 & 3 Describe standards of performance falling between Grades 1 and 4.

Grade 4 Describes the standard of performance expected from a candidate of average ability in the subject who has applied himself to a course of study regarded by teachers of the subject as appropriate to his age, ability and aptitude.

Grade 5 Describes a standard of performance which is within the scope of the C S E examinations system but which is below that expected for Grade 4".

The criteria are defined as norms and the first step in developing procedures which can interpret these very broad general categories is to find words which limit the interpretation to more accurately perceived and defined categories of knowledge and skill which has to be made by the moderator. This is difficult and might well not be possible. How to define the unclassified grade boundary which is at the extreme end of the normal distribution should be relatively easy, but the Chairman of the Curriculum/Exam Sub-Committee could only comment:

"Ungraded children are those who should not have been entered for the exam in the first place".

This problem was recognized by a Board secretary at the Moderators' Meeting in March, 1978, in describing criteria for grading projects.

"Bloom is useful up to a point. With his description of different levels:

(a) recall and background knowledge;

(b) identifying problem, for example, recognize requirements of body;
(c) analysis and synthesis.

> But these have their limitations as the words mean different things to different people. Quite often you rely upon a gut reaction and very personal out of the bones of your knowledge. But when you have been in a dozen schools you will be pretty consistent with the next dozen. You rely upon similarities which can be recognized in say three different groups. These are standards which adults have taken into themselves and use but cannot explain. You only learn this job by doing it".

By March 1982 the meetings had been renamed Moderators' Standardization Meeting (betraying the trend). Although defining criteria which can be interpreted reasonably objectively is difficult it does appear to be helpful in achieving some level of parity and justice. Teachers implementing schemes need to be able to describe what they are giving marks for, but it is a skill teachers need help with. This was demonstrated at the operational level at an informal meeting with a teacher to discuss the submission of a proposal. Asked for what skills and abilities various grades were given the response was somewhat confused, indicating some uncertainty as to what was being asked.

> "We have found with assessing that we place all those who are average 'C's. It is very difficult to say what we gave marks for. We have begun to think of the skills and abilities which are given for various grades and it is amazing how children who tended to be forgotten we found that we were able to say something definite about them on their reports".

In order to make the moderation activity more simple, reduce the subjectivity and help teachers who found describing criteria difficult, the moderating team attempted to write criteria which were more specific for projects. Projects were picked out for this treatment because they were seen as being a general problem in the early years of the scheme.

"Projects: Established Marking Criteria

Attempted to grade projects in accordance with the following criteria:

Grade 1 Evidence of ability to analyse and draw conclusions from investigation demanding individual and practical research.

Grade 2 Well presented ideas and results but a descriptive record of practical and personal involvement in project.

Grade 3 Well presented, comprehensive and interestingly analysed material from literature sources.

Grade 4 Some flaws in English and presentation but evidence of diligent endeavour in collecting information from written sources.

Grade 5 Accumulation of some material but indications that the task of writing the project was found difficult.

Unclassified. Content skimpy and presentation weak and careless.

In order to insist upon a scheme of marking of this kind it would be necessary to agree to the following allocation of marks when a proposal was submitted:

Presentation	20%
Content	30%
Originality	50%"

Insisting on these criteria eventually had implications for how the pupils were prepared. A similar activity was engaged in for practical work.

"Practical

(1) Top 20% or Grade 1 in 3 form entry school with a fully comprehensive intake of 100 children is 20 children. This means that most of the first and second teams reach this grade on achievement criteria.

(2) Hierarchy of skill:

Grade 1 Fluent, precise skill, possesses all basic techniques.

Grade 2 Crudely efficient and effective.

Grade 3 Uncertain and tentative in the game, and in executing the skills.

Grade 4 Low level, clumsy, can make most techniques work.

Grade 5 Laboured and uncertain.

Grade 6 Unclassified, timid and uncoordinated".

There is no evidence to indicate how useful these contributions of the moderating team were to improving the validity and reliability of the examinations, but they certainly increased standardization awareness. Attempts to designate skill criteria for separate practical activities in a more precise way were unsuccessful. This development required content to be included which lead to the criteria being far too extensive to be useful as a help to moderating.

During the period evidence was being collected the Board tightened up the definitions and interpretations for what marks should and should not be given. The discontinuing of the practice of awarding marks for relative or personal goals has already been discussed. The content of Outdoor Pursuits was given very careful scrutiny. The structure of end-of-course examination papers to reflect the distinct elements of the course and carrying an examination weighting of 20% was imposed.

3.3.9 Special Difficulties in Examining Physical Education

The general problems and suspicion of Mode III are compounded in the case of physical education which has no tradition of examinations. There is greater difficulty here in demonstrating that an alternative to a detached, objective, statistical comparison is possible and desirable. Involved, subjective, negotiation procedures aiming for long term agreements and understanding are more difficult to justify, although possibly more necessary with such a

diffuse, transient product.

Officials of the Board had very clear ideas of the special problems associated with examining physical education.

> "Teacher assessed element is greater in P.E., consequently the examination is more difficult and diffuse than other subjects. It is more difficult and impossible to get all the work together at one time".

The lack of correlation between practical performance and academic ability was a particular problem for the Board officials because of their epistemological assumptions. To the teachers it was simply a feature encountered in teaching the subject which is demonstrated in the following statement made at a moderating meeting.

> "What about the two we have talked about? Gillian who has worked as hard and done so well in the academic work yet is not a particularly good practical performer. Is she worth Grade 1? Christine on the other hand is so good at games and she has done her very best, but she has not been very good on the academic side".

A major difficulty in the eyes of the Board officers which has not been satisfactorily resolved is gender differences in the subject. Some schemes made use of national sports bodies' norms for awarding marks which make allowance for unequal distribution of strength between the sexes, but the Board's inclination is to draw strict parallels with the distribution of intelligence and performance in academic subjects and ignore gender differences. This was commented upon by the Mode III Secretary.

> "Whether or not allowances are given for the girls' work needs resolving. It needs to be clearly understood what is exactly being certificated. If it is strength then there should be no reason to recognise two standards. We don't in other subjects like

> literature where girls appear to have an advantage".

The differences are not illusory and when schemes attempt to offer a course without options the girls appear to be at a considerable disadvantage unless they are exceptional individuals.

Some of the difficulties encountered in examining physical education were recognized by the moderators as being more to lack of past experience on the part of the teachers than intrinsic to the subject. This obviously applied to academic teaching and the examination aspects of the new courses. Attention was drawn to this by one of the moderators at a meeting soon after the team had been brought together.

> "P.E. teachers, in particular, need help in writing exam questions and supervising projects, as they tend to have no experience along these lines".

The Board officials drew attention to the simple responses asked for in some physical education examination papers but did not give very clear advice on how to bring about an improvement in the drafting. In the main they only elaborated by providing examples.

> "It needs establishing what is the centrality of P.E. and how the examination questions relate to the central core. For example some of the questions never get above trivia and excessive attention to unrelated facts which do not relate to the subject as such. These are questions about personalities, in football, for example".

The moderators attempted to define the problem more specifically and identified a hierarchy of levels of questions, and engaged in a dialogue to refine this and make it more useful.

> <u>"Question Paper Construction: Definition of Levels</u>
>
> It is recognised that there is the need for variety and range of levels of questions in papers:

1. Simple obvious recall - concrete concepts, obvious features in diagrams, obvious alternatives.

2. Complex recall - abstract theory and concepts, chain-linked description and thinking, multiple factors.

3. Description and explanation - continuous and connected.

4. Application - interpreting and applying data, illustrate principles and solve problems.

5. Judgements - analysis and evaluation of data and experience.

Question papers should not be limited to (1)".

This negotiation has so far not been taken to the level of accommodation or objectification and this hierarchy operated as guidelines. There has not been the time available at recent Moderator's meetings as these annual gatherings have been used for practising grading pupils' work at crucial grade boundaries.

3.3.10 Rejection of Policy Previously Established By Board

Examples are emerging of changes which have led to statements by the Board or its officers contradicting their earlier advice and regulations. As the Board gained experience with physical education, specific problems were perceived and defined according to changing interpretations. In some instances the interpretations were different partly because of changes in Board staff. The project was seen by one secretary as being a very complex but desirable form of examination:

> "Projects can test intellectual skills at the highest level we examine".

This interpretation called for a particular approach to their teaching.

"Projects are basically concerned with scientific method which would imply that there is:

(a) some statement to lead you into the subject;

(b) some statement of how data will be collected;

(c) some means of analysis;

(d) a conclusion drawn.

These skills ought to be taught before you expect children to do anything by themselves".

Another secretary with a much less enthusiastic view of projects, and more in sympathy with the growing conservatism of the Board, viewed them very differently.

"Does it become necessary to ask for originality in projects in P.E.? I am inclined to give more attention to content. Does doing a personal investigation constitute P.E. skills and therefore a project indicate this? Not altogether happy about projects as it is difficult to decide how much help they have had".

Similarly a guideline offered by one secretary that approximately 30% of the work of a course should be covered by a two and a half hour paper, or its equivalent, brought surprise and rejection from another secretary some years later.

"Who claims that? If it were to apply then many of the Mode I examinations which were only two hours duration would not apply".

With another change it was the realisation that an earlier regulation was not compatible with existing or emerging Board policy. The problem of personal goals has previously been described, (see 3.3.5).

"The assessment of the physical aspect should not take the form of stop-watch type measurement, but should reflect a candidate's general physical abilities".

This Curriculum Sub-Committee's statement made it possible to argue for rewarding relative achievement in practical activities. Three years later, when it was pointed out that the attempts to assess improvement stemmed from this regulation and the interpretation of a Board secretary that it should be possible for a boy who was not a particularly outstanding athlete to get a good grade in physical education CSE, another secretary expressed surprise.

"This was surely not the Board policy".

An explanation might be that the tightening up of some policy previously established by the Board is inevitable as time passes, on the other hand it might indicate a significant change in degree of standardization or even a distinct change in category of standardization. The emphasis in the creation of structure may have shifted from facilitation of the innovation to concentration on ensuring that it is fitting into the established system. There was also a clear change in policy with a change in the secretary responsible for Mode III.

3.3.11 Response to Growing Structure

The evidence, in the informal interview data, of teachers' response to growing constraints has been limited. Schools have withdrawn their schemes for a variety of reasons and some have explicitly stated that they are not continuing because of the new regulations which the Board is introducing. The first notification of a school not wanting to proceed with a scheme because the new regulations required an obligatory component of anatomy and physiology was registered in July 1980.

Moderators who are in the difficult position of being teachers of

their own schemes, but examiners of five or six other schemes, tend to move from their ambivalent position in the direction of being teachers rather than Board employees and be critical of increased standardization. A moderator, asked how his moderating duties were progressing, replied.

> "I have managed to meet all the Board's previous demands. I suppose we are all right now until the next moderators' meeting when I suppose they will start 'nit-picking' a bit more".

Many teachers are of course delighted with the outcome when their first examination candidates finally pass through the scheme and any difficulties encountered on the way are quickly forgotten.

> "Not sure as we worked through the scheme that it was a good thing, but now all the marks have been successfully brought together I am happy with it. It has certainly raised the standards of P.E. in the school. It has also raised the status of P.E. with staff and pupils".

3.3.12 Position of the Teacher in Relation to Growing Structure

The change to a conservative climate, and concern for economic limits, as well as responses intrinsic to examinations have encouraged a positivistic curriculum-as-fact approach to the development of the C S E Mode III Physical Education in particular. The early inclination to allow individual solutions to particular situations to survive and tolerance of unusual processes has disappeared. Structure is growing and opportunities for choice for the teachers engaged in the scheme have been reduced.

The Board's meanings are being imposed and those of the participants increasingly ignored. The Board's view was emerging as being based upon a positivistic, epistemological principle which

is subject centred rather than pupil centred, tempered by the pragmatic concern of establishing acceptable levels of examinations. This can be more easily evaluated in the established academic area of anatomy and physiology than emerging fields of knowledge. The imposition of structure by the more precise definition of the subject has reduced the opportunities for choice and ambiguity available when the definition of the subject and content was more open and related to a particular school situation and teacher.

Although the teacher's autonomy has been limited there is no evidence of massive loss of commitment at this stage in development, but a plateau in implementation has been reached and there is some rejection as a direct consequence of the limitations being imposed. The response of the teachers to the imposition of limits to their autonomy and to negotiation opportunities has not at this stage been specifically probed nor provided with much opportunity to emerge. The overall response to the growing imposition of structure might be negative or positive, as some teachers prefer rule bound, standardized situations.

Two perspectives have been defined which in some situations are in conflict. Priorities of the teacher's perspective place emphasis on what is important in the processes of teaching, but the essence of the examiner's perspective is concern for what is worthy of an examination. The anxiety of some teachers is to provide content and experience for a particular group of pupils which promotes purposeful learning and is well received. To achieve this it is often necessary to have an open approach to the curriculum and to provide particular solutions for specific problems which involve considerable choice and tolerance of ambiguity. The aim of the examiner is to achieve justice and

rigour which calls for controlled situations, standardization, clear definitions and simplified general solutions. There is therefore endemic conflict built into Mode III examining and a total incompatibility between the examiner's perspective and the modified subjectivist perspective identified in innovation. Teachers working from that position will feel the antagonism particularly sharply. Moderators working on the scheme have a special problem of role ambivalence as they are expected to work from both perspectives.

Physical education is recognized by Board officials to be troublesome to examine. They find it very difficult to implement Mode I type detached, objective, statistical comparisons. The problems might arise from the nature of the subject or limitations of the teacher for whom very little preparation is available in initial teacher training. There has been little opportunity to assess how involved, subjective negotiation procedures were working in the implementation of the physical education examinations.

3.3.13 System Standardization

The structure has grown to such an extent that it is not unreasonable to suggest that teacher autonomy has been replaced by system standardization. Sufficient control has been imposed upon the C S E Physical Education courses to claim that the balance of choice is no longer in the teacher's favour. An incremental effect appears to be working where the introduction of standardization measures creates the need for further building of structure.

Interaction opportunities are being reduced in a way which will interfere with negotiation taking place. This might lead to

opportunities of fostering change from outside being reduced. It will certainly limit staff development and teacher training from within the scheme and this will leave a vacuum which will have to be filled by agencies traditionally expected to provide in-service training.

It can only be a guess how much more reliable and valid the examinations would become with unlimited finance. Some, who wish to increase Mode I type techniques which aim for detachment and simple comparison, would argue that incurring additional expense or increasing the interaction of teachers and moderators is a mistake. Increasing interaction on the other hand will be approved of by those examiners who believe that the distinctive form of Mode III requires involved negotiation. Over the period that the investigation was being conducted the economic limits became tight at the same time as the general education policy was becoming more conservative. It might be that this provided an excuse and made it easier for the Board to increase standardization and to discourage the development of more open procedures.

The examiner's perspective is becoming more dominant than the teacher's perspective. Increasingly Mode I procedures are being taken as the model to be emulated. Examination and standardization techniques which are detached, objective compartmentalized based on stastistical comparison are replacing more involved, subjective, holistic and interactive procedures. Some teachers would claim that an opportunity to develop these interactive evaluation activities which are characteristic of Mode III work and responsive to change and could ultimately achieve the right balance of validity and reliability, is being missed.

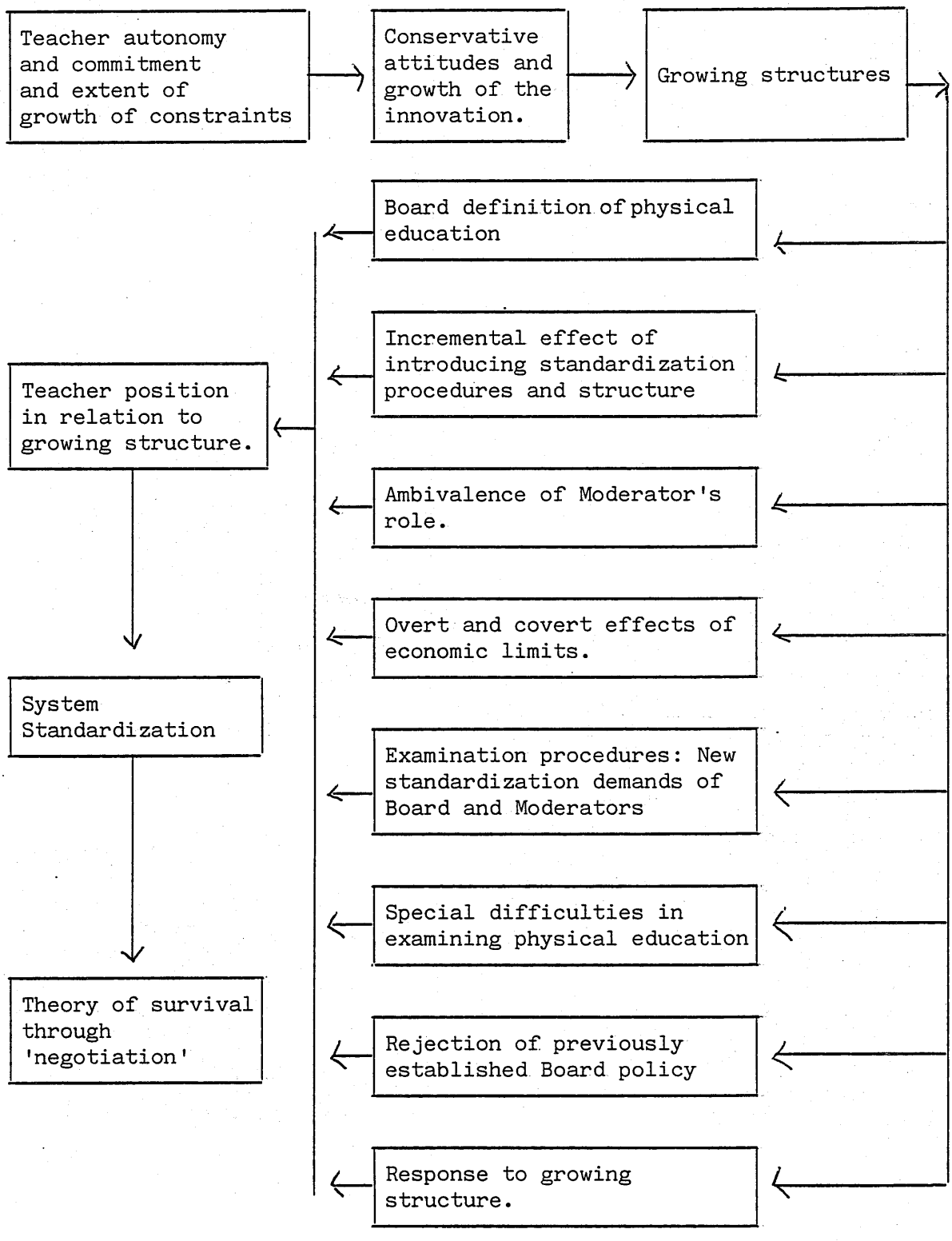
The developments which have been initiated by the Board were aimed at achieving justice for the candidates, but it could be seen as an examiner's rather than a teacher's definition of justice. This interpretation quite deliberately makes no allowance for differences in contributions of schools and teachers. It might be that examination systems could not survive if broader considerations had to be accommodated and allowances made for particular situations and changes, but this was not the belief of many teachers who initiated Mode III courses.

Summary

System standardization does appear to have occurred and severely reduced teacher autonomy despite the grassroots nature of the innovation, but so far there is no evidence for believing that teacher commitment has diminished on a large scale. Some withdrawals have taken place because of the constraint. This raises the question of how further withdrawals can be prevented and the innovation made to survive in the face of system standardization, or whether there is inevitably a temporal limit to innovation.

It is tentatively proposed that if negotiation processes associated with the development of the curriculum-as-practice can be maintained then the innovation will survive.

DIAGRAM 5 Growing Structure and System Standardization



3.4 Negotiation Processes and Responses to the Implementation of the Examination Course

The analysis of informal interviews, meetings and documents indicate such a growth in the structural constraints that system standardization was being established and teacher autonomy reduced. A modified subjectivist position which is the basis for this analysis suggests that survival is incompatible with the erosion of teacher autonomy and related commitment. This raises two major questions:

(a) Are the negotiation processes resulting in the continued development of curriculum-as-practice? Curriculum-as-practice is interpreted here as calling for negotiations which take account of process principles defined at 2.3. These are the necessity for on-going modification, recognition of the importance of inter-relationships, allowance for interpretations and encouragement of individual identification with the activity. The assumption being that this will help to maintain commitment of teachers;

(b) What do the negotiations of teachers indicate about their responses to growing system standardization encountered in the implementation of the course and their overall perspective on grassroots innovation?

Negotiation has been theoretically defined (Section 2.3) as the process in which individuals or groups engage in response to situations, and which results in new knowledge, understanding and definitions which lie on a continuum running through perception, interpretation, definition, dialogue, accommodation to objectification. For the particular purpose of the analysis of the formal interview

data of this investigation it is the twelve teachers' responses to significant new situations, new knowledge and skills, and new relationships encountered during implementing the Mode III C S E in phsyical education. It is the means of identifying teacher negotiation processes in grassroots curriculum innovation which contribute to the survival, demise or deflection of the innovation. The first analysis of the interviews concentrated on the question of identifying the important negotiation processes in relation to the development of the curriculum-as-practice, and the second focused on the teachers' response to the innovation and course implementation experience.

The analysis of each interview separately, to identify the significant negotiations, is followed by an analysis of the interviews together to refine the definitions which emerged, identify relationships and establish the trends. This is following the accumulative observation and analysis procedure which leads onto the statement of propositions, developing models of relationships and the mini theories in relation to the analysis. Examples of the analysis of the formal interview material are to be found in Appendix F.

3.4.1 Negotiation Processes

The trends in the negotiation processes revealed in the accounts were evaluated. The assumption previously argued of the relationship between curriculum-as-practice and process principles was accepted and criteria for a trend towards curriculum-as-practice were judged to be:

(a) opportunities for ongoing modification;

(b) increased emphasis on inter-relationships;

(c) freedom to respond to alternative interpretations;

(d) evidence of encouragement of individual identifications.

From inspection of the significant issues, their frequency and evaluation against the criteria, a judgement was made on the level of orientation towards curriculum-as-practice. This judgement or definition of the trends by the researcher is recorded at the end of each sub-section.

The negotiations which emerged from the analysis of the interviews as being important are recorded under the general headings of general structural, examination board, local authority, school, pupils' and teachers'. The choice of those sub-headings was an arbitrary classification. The divisions within these sub-sections emerged from the analysis of the data.

(a) General Structural Negotiations

The most significant negotiation processes related to general structural issues which were identified were concerned with falling rolls and secondary re-organisation.

Falling pupil rolls and general economic restraints has lead to the reduction in numbers of staff in some physical education departments. The examination classes had tended to operate on generous staff student ratios and if the examination courses were to continue then physical education for the majority of the children would suffer. One of the three teachers who drew attention to this had clearly very little choice:

> "I will lose the second in the department next year because of falling rolls. If I carry on with two C S E classes then someone down the school is going to get none".

This very important issue of falling rolls only appeared as a reality in schools towards the end of the programme of interviews.

Schools' re-organisation led to four schools in the sample losing academic pupils from the courses. These were replaced with less able pupils who could not cope as easily with the theory. Teachers drew attention to the way in which the teaching of the examination course became less satisfying because comprehensive re-organisation was responsible for less able children taking the course rather than the selective school intake.

There was some indication that the general structural negotiation processes taking place resulted in the reduction of job satisfaction for a number of teachers. Limitations were placed on desirable course modifications being made, the luxury of teaching smaller groups, which enabled greater interaction to take place disappeared and personal identification with the task was being reduced for some teachers because the children and staff were less able to cope with the demands of the course.

At the level of the general structure of negotiation the trend was away from curriculum-as-practice principles and teacher autonomy and commitment were likely to be eroded.

(b) Examination Board Negotiations

System standardization, definition of the curriculum and interaction opportunities with the Board emerged as negotiations upon which teachers made significant comment.

Evidence is available of there being considerable opportunities for alternative content being included in schemes which were determined by the needs of particular groups of children, interests and skills of individual teachers and available resources. One teacher made this point somewhat aggressively.

> "The course is worthwhile whilst it is sufficiently distinctive for children in this school".

Teachers also explained how this applied when courses were developed on the principle of including activities which they did best, and for which they had good facilities.

The majority of teachers drew attention to trends against this existing situation. These were identified as the prescriptions by the Board of the proportions of practical and theory in courses, and demands for increasing the amount of anatomy and physiology which was generally, but not universally, disliked. One view was:

> "Anatomy and physiology was never a problem. I don't think it is wasted".

A number of teachers claimed that opportunities for choice were disappearing and not one single teacher indicated any area where relaxation of regulations might be occurring. Generally the Examination Board was seen to be tightening up.

Opportunities for interaction between Board officials and teachers was being reduced. It was acknowledged by teachers that moderators could be very helpful in setting up the course, but the Board discouraged this practice.

There was no evidence of total limitations being imposed on the modification of schemes, and the possibility of particular interpretations for some content still existed, but like the opportunities for interaction between Board officials and teachers, the accounts indicated the presence of growing constraints. Curriculum-as-practice principles operate to some extent in the schemes, but if this is to be maintained the opportunity to represent different interpretations needs to be protected against emerging regulations.

(c) Local Authority Negotiations

The growing support of LEA advisers for the course was recognised by some of the teachers, but in-service provision was mentioned only once, where an interviewee described how the teachers had to start going out on courses, and even put pressure on advisers to put on courses, to enable them to teach better. Of the five comments on local authority advisers' relationship with C S E schemes three mentioned opposition and two favourable support.

It might be that advisers are beginning to accept that there is some advantage to be gained from implementing examinations, but to begin with there was, according to a number of teachers, a great deal of opposition. One commented:

"There is now growing support from the local authority adviser".

A wider interpretation of what counts as physical education in schools is possibly coming to be accepted by local authority advisers, which will make it possible for changes of this kind to take place more easily.

(d) School Negotiations

Negotiations taking place in relation to schools focused on resource allocation, the status of courses in school and school relationships and co-operation.

There is a tendency for the examination course to be privileged in terms of resource allocation, but some instances were recorded of the scheme being implemented only because staff were prepared to teach the course out of normal time-table time. One teacher described how fortunate they were in being double time-tabled for groups of twenty. Another teacher described a less encouraging situation.

"I had to put the course on at 8.30 in the morning before school started".

Negotiations depend on the status of the scheme in the school and no clear pattern is discernible. Some accounts described how the course was organised to make it possible to get bright children on the course and how it was possible to recruit upper-band children. On the other hand, some with dismay explained how the quality of pupils has waned, and brighter pupils were being directed away.

Starting a scheme automatically leads to building up additional relationships and co-operation within the school. The staff involved with examinations have to talk to other staff engaged in examination courses. One teacher described how this worked.

> "I had a lot of expert help from staff responsible for examinations. They did a lot of running around for me".

Heads of department indicated how they could not implement the schemes without considerable support from other members of the department.

There is more evidence of support for the course and active co-operation from schools than discouragement. The good quality of relationships in relation to the schemes has made change easier and creating a different interpretation of what physical education in schools can be has generally not created difficulties according to the evidence of the teachers interviewed. There were indications of personal identity and commitment being both threatened and becoming stronger.

(e) Pupils' Negotiations

The most important negotiations in relation to the pupils was in terms of their response to and benefits from the course.

The examination course was an option for which pupils elected. This ensured that negotiations between all participants were on a different basis than other school

phsycial education programmes. There were very few instances of rejection reported, and where it did occur it was in relation to theory. One teacher described how she spent all lesson time on practical, but this meant theory had to be done for homework, and when this message got around the school all the pupils began to opt for art instead.

The response of the pupils was nearly always described by the staff with satisfaction,

> "Examination children apply themselves better to P.E. than the non-examination groups".

was a view expressed several times.

The benefits identified for the children were opportunities to see relevance in their studies and demonstrate their strength in practical ability. It was explained how pupils thought P.E. theory less difficult than human biology and found it easier to pick out what was wanted. It also provided the opportunity for the physically able to demonstrate worthiness.

Some skills were also developed which in the eyes of the teachers were useful. One physical education master saw the course as opening new horizons.

> "Boys looked at P.E. from a different point of view. They looked behind the scenes which enabled them to pursue avenues otherwise not possible. They developed a different kind of understanding and possibilities, for example training pub teams".

This same process was described less bizarrely but more interestingly, as having moved away from learning facts and

being more concerned with understanding, getting them to make their own judgements and being critical. It was thought that they would not just remember but look more into the subject.

The increase in level of satisfaction generally appeared to be related to the maintenance of a curriculum-as-practice orientation.

(f) Teachers' Negotiations

The situations with which teachers had to come to terms and negotiate with themselves were levels of satisfaction with course development demands and centre implementation rewards.

There are problems and advantages in being an innovator. One difficulty is that there are no "models" or "brains to pick" and school level texts do not exist. On the other hand, being an innovator provides immense satisfaction to some teachers. A number talked of the exhilaration of the challenge to make their own Mode III course work. It was claimed that a very high level of return of this kind was necessary to provide an adequate reward for the work involved.

> "Durability is needed by the teacher to make it succeed as the amount of paper work and administration was overwhelming".

On the other hand, some teachers found themselves being disatisfied because of career demands in other directions, just being unable to cope with everything which needed to be done or becoming disturbed by falling numbers of Grade 1's

because of not having sufficient time to devote to the task.

Implementing the course called for the development of new administration and examining skills. It also called for teaching at a higher level. One teacher explained how it became more demanding.

> "You think more about it when you have to teach them from the aspect of them learning what they are doing. You don't have to explain techniques, they just do it in non-examination groups".

The examination itself, although something of a problem when there is a conflict between the perspective of the teacher as educator and teacher as examiner, can lead to learning insights. One teacher described how doing examinations made her more aware of the limitations of the children and realized she had to go more slowly as it was only when she saw their writing that she realized their lack of ability and understanding.

The accounts indicate considerable satisfaction in the curriculum development. The excitement of experimental, challenging days which lead on to the development of further modifications, working relationships and experimentation with courses. Yet from other teachers implementing the courses there are reports and hints of waning interest. Sustaining heavy time demands, coping with increased Board standardization, having to learn new skills can begin to work against the development of changes, inter-relationships, alternative solutions and individual identification.

In summary there is evidence of some movement away from curriculum-

as-practice, particularly at the general structural and examination board levels, but there is also considerable support for the principles at school organisation and pupils levels. Teacher and local authority negotiation processes were not easy to categorize as a variety of trends appeared to be developing. The negotiations associated with the development of the curriculum-as-practice appeared overall to be becoming more limited yet to some extent maintained.

The most significant negotiations which emerged from the interviews were:

(a) the effect of falling rolls and economic restraints. This was the most significant negotiation of all, on the grounds that it had been responsible for important changes in some schemes and had not previously emerged as a constraining factor of such significance;

(b) another new thread of evidence was that which identified the exhilaration and challenge of being an innovator;

(c) the effects of Board standardization and more restrictive regulations;

(d) the more demanding but gratifying responses of pupils;

(e) excessive time demands brought about by the role change from teacher to examiner and course developer.

What came through more clearly in the analysis of the formal interviews than the informal accounts was how, despite growing

standardization, teacher commitment was being maintained because the positive pupils responses encouraged teachers to continue with the work.

3.4.2 Teachers' Response to the Implementation of Examination Course

Following the systematic analysis of negotiation processes and evaluation in relation to process criteria, an impressionistic interpretation of the teachers' responses was made. The response to structural constraints and system standardization were identified.

Of the 12 teachers interviewed formally between May 1981 and June 1982, five were continuing to teach the course, three had changed their jobs and handed it on to their successors, and four schemes had been discontinued.

They had responded to standardization and constraints in four different ways. The acceptance model of response was where the teacher defined the situation very favourable, saw no threats and responded accordingly. Some teachers were not happy about some structural and system changes but accommodated to them and carried on teaching the course, whilst others recognised the emerging constraints and responded by retreating from the scheme. A fourth group retreated and discontinued teaching the course, but found alternative outlets for their curriculum development ambitions, which had lead them into introducing the examination course in the first place. There were three in the acceptance, four in accommodation, three retreat and two alternative outlet categories in the formal interview sample.

An outline description of the twelve teachers, their situation and the dominant themes emerging at the interview follows. Added to the researcher's description are extracts from the interviews. These are not considered as evidence verifying the descriptions, but as examples of the comments made during the course of the interview which contributed to an accumulating picture of the teacher. They provided a slightly more existential picture of what implementing a grassroots curriculum development means to the teacher.

(a) Acceptance Model

Teacher 12.

A male teacher of Outdoor Pursuits in a boys' secondary modern school which has now become a mixed comprehensive. The school is located in an industrial town. The course is continuing and the teacher is one of the few positive supporters of the Board's policy of tightenting regulations.

> "I think that the Board are dead right in wanting to tighten up Mode III. I think that it is too easy to have an easy course".

This teacher constantly referred to the need to relieve boredeom in everyday work. The outdoor pursuits examination scheme which had previously been a great pleasure was now classified as work, and challenges had to be found in other operations.

> "My career pattern indicates that I always want to do something new and challenging. There was firstly developing the outdoor pursuits, then the examination, then the Youth Centre and the B.Ed. It is a matter of wanting to do something new all the time".

This teacher was very clear about the ambiguity of his motives and he recognized that he claimed to be getting involved in the innovation for the good of the pupils, but knew really it was because he enjoyed doing it.

Teacher 3.

A male teacher in a larged mixed comprehensive school located in a city fringe council estate. It is seen as being a successful innovation which will continue to flourish. A group scheme is being developed in the town and this teacher's school will be its nucleus. The teacher accepts the increasing standardization and gives the impression that almost any adjustment will be made to ensure that the course continues.

> "The only problem with meeting the anatomy and physiology expectations of the Board is that there are no texts to help the teachers".

Of particular importance for this teacher is the sense of achievement which was brought about by developing the course and making it work successfully.

> "Doing the course made staff go into the teaching of practical activities in more detail. Everything is now highly structured. You get a sense of achievement when you get something structured and worthwhile".

Teacher 5

A female teacher in a mixed 14 to 18 high school located in an industrial town. The scheme is continuing and the teacher complies easily with the Board's expectations.

This teacher is successful in implementing the innovation which is not totally accepted by the rest of the school, because of the competition it presents to other established school activities.

> "I think that if I moved away they would try to get rid of the course. We are a thorn in one or two peoples' flesh because we do too much P.E. after school".

The course is characterized by a drive for high achievement in practice and theory. The orientation is strongly towards physical elitism.

> "You have got to push the standards. The exam is useful because you can say that if you want to pass you need to do some more work".

The examination was seen as not only being a means of pushing the children, but also preventing staff becoming lazy.

(b) Accommodation Model

Teacher 6

A female teacher in what used to be a large, girls' grammar school located on the surburban fringe of a large city. The scheme is continuing, but the school is being re-organised as a mixed comprehensive. The Board!s expectations are met, but not totally accepted. One example of this was her response to the anatomy and physiology requirement.

> "I would have done less anatomy and physiology but more theory of activities".

There was also a similar reluctant acceptance of regulations preventing awarding marks for relative standards.

"Examination regulations can work against improving standards. For example not allowing the giving of marks for progress".

The opportunity to teach able pupils to greater depths than is possible with normal time-table allocation, and the satisfaction which this brings is a special consideration of this teacher.

"The examination makes you work at a higher level also makes children care about assessments and work by themselves. They enjoy working for exams".

There was a great deal of dismay that the high standards which the examination course had encouraged with the selective children would disappear with the comprehensive re-organisation. It was found that the lower band pupils even found problems playing tennis properly.

Teacher 7.

A male teacher in a boys' grammar school located on the outskirts of a sea-side town. The scheme is continuing when the school is re-organised as a mixed comprehensive. The teacher has handed the scheme over and is moving out of physical education teaching into pastoral and administrative responsibility.

The theme which dominated this interview was the waning interest of the teacher in the scheme. One reason for this occurring as well as the teacher's own career having moved away from physical education, was the boys taking the course were less able.

> "Changes occurred which made teaching the course less satisfying. Comprehensive re-organisation was responsible for less able children taking the course rather than the selective school intake".

Diminished support of the school, which made the gratification arising from pupils' success not enough to sustain interest.

> "It was very satisfying to look back on good individuals who put a lot into the course and got a lot out of it".

The excitement, satisfaction and commitment generated in the experimental phase had almost totally disappeared.

Teacher 8.

A female teacher in a girls' comprehensive school located on a city overspill council estate. The scheme which this teacher developed is continuing, although she herself has become less involved because of taking a pastoral post in the school. She was having to accommodate some Board regulations.

> "I am not very happy about having to increase the amount of anatomy and physiology; it is not right for children from this area".

The theme constantly re-appearing in this interview was the benefits which had resulted from making 4th and 5th form physical education optional and entering all of these pupils for CSE. The increased teacher satisfaction had grown because of being involved in a much more demanding course for both staff and pupils.

> "We used to get 150 children with four teachers and half the time was spent sorting out those without kit. Those who do it find it much more worthwhile

> and teachers get much more satisfaction. They want to learn and we can teach them something".

Developing the potential in children is what this teacher saw as the satisfaction arising from the course, and physical education was not seen as being necessary to do this for all children.

Teacher 2.

A male teacher in a large mixed comprehensive school located on a city overspill housing estate. The scheme which this teacher developed is continuing although he handed this scheme over when he left the school to take up a post of deputy headteacher. He is continuing to maintain interest in CSE examinations in physical education as a Board Moderator, and although critical of some Board regulations accommodates them.

The teacher placed considerable emphasis on course implementation fitting into a co-operative, harmonious system of curriculum development in the school as a whole and the physical education programme for the non-examination pupils in particular. The school had a sophisticated approach to managing the curriculum.

> "Discussion is the basis of our school management. We don't have a system where one person decides the curriculum. We have collaborative decision making of all curriculum and management issues... We employ the same system within our department and faculties as we do in the school management system".

Although he had strong reservations about Board intervention, particularly the imposition of the anatomy and physiology

requirement, he was generally supportive of what the Board and examination course provided.

> "The Board do well because they make the person concerned think about the subject".

The course was considered to still be helping the pupils to understand physical education activities.

(c) Retreat Model

Teacher 1.

A female teacher in a girls' secondary modern school now re-organised as a mixed comprehensive located in the suburbs of a small town. The course is continuing, but the teacher left the school in which she developed the scheme to teach in a college of education. She indicated that if she had remained she would have retreated and the scheme would have been withdrawn because of the increased control exercised by the Board over the scheme.

> "It did not start as an examination course, but what could be provided for children planning a career in P.E. It has now gone to things which are examinable. It was meant to meet needs of kids not what was required for an exam. When we started, the course could be set up as we wanted it, but now the image has changed completely".

The special focus appearing in this teacher's account of the implementation of the course was the manner in which a genuine innovatory programme had been negotiated which was clearly related to the children's needs. It was also appreciated for the sense of excitement which it brought to professional life.

> "You did your everyday work and the exam course was a bonus. It sparked a new light in you. It took hours and hours, but I just wanted to do it, it was new, it was exciting, it was professionally rewarding".

The course in the school changed from being structured along very original lines to being in no way distinctive when this teacher resigned.

Teacher 4.

A male teacher in a boys' secondary modern school located in the centre of an industrial town. The course was being discontinued, partly because of the pressure from the head-teacher and senior master of the school, but also because of the waning enthusiasm of the teacher. The teacher could have accommodated to the changing expectations of the Board but the institutional constraints of the school did not allow it.

> "There was a lot of opposition from the senior master and head with the last intake. They reduced the staffing allocation from two to one with twenty-four pupils. Twelve was the average for one teacher with other options in school".

The special characteristics indicated by this teacher were:- disappointment at the decline of the course due to the changing intake of the school, the shift of resources to other priorities, and the prolonged absence because of illness of the teacher.

> "Many things were done in the school for prestige and keeping in the public eye. It used to be outdoor pursuits and P.E. examinations but it was now building motor cars".

Decline in the ability and attitude of the pupils taking the option also reduced the satisfaction which the teacher received from implementing the course.

> "The level of application of the kids declined. They began to make sucking noises at the 'creeps'. If they received an award they would plead not to have it presented in assembly".

In addition to the other problems which this teacher encountered, he was becoming more and more anxious about the Board's increasing expectations.

Teacher 9.

A male teacher in a large mixed secondary modern school being re-organised as a comprehensive. The school is located on the rural urban fringe of an industrial town. The scheme is being discontinued because re-organisation has resulted in a less generous staff allocation and fewer higher ability pupils opting for the course. The teacher is retreating from the innovation without apparently replacing or deflecting it.

> "We are discontinuing the course because of cut-back in numbers of staff because of falling rolls and the need to cover bread and butter programmes".

A special characteristic emerging in the course of this interview was the focus upon keeping the large department of seven working together. The CSE scheme which had made a contribution to this was now becoming a problem.

> "Dealing with the Board is now like dealing with the tax man. The impression we have been getting is that the Board is trying to discourage Mode III".

In addition one of the beneficial developments of implementing the scheme was now being achieved in other ways.

> "Doing the CSE integrated the work of the men and women in the Department. This has now been extended to mixed groups with non CSE work".

The emergence of structural and organizational constraints had resulted in the strains and extra pressure generated by the CSE course not now being seen as being justified.

(d) Alternative Outlets Model

Teacher 10

A male teacher in a city centre boys' selective school which became a boys' comprehensive. The scheme has been discontinued, because falling rolls led to a number of staff being withdrawn and the head of department decided that the examination scheme could not be continued with the reduced resources. He had also begun to get annoyed with the Board's unsympathetic attitude to Mode III schemes.

> "As well as staffing problems I did get annoyed with some Board regulations; biennial reviews, results having to conform to some expected distribution".

A recurring theme of the interview was the need to extend the boundaries of traditional physical education and make it more professional by encouraging the pupils to think about the subject. This the examination course allowed to happen, although eventually alternative outlets were explored outside the examination framework and the Board's regulations.

"CSE took me outside the basic programme of P.E. which has been continued in developing outdoor pursuits and social and life skills activities".

The teacher described very clearly activities which were innovative and developments in the subject growing from the CSE experience.

Teacher 11.

A female teacher in a girls' small secondary modern school located on a city housing estate. The scheme is being discontinued because of the difficulties presented by reduced staffing, as well as some frustration with CSE developments.

"The pettiness of the Board lead to feeling disillusioned with the course. They drove me mad being so authoritarian. You get the impression they don't want Mode III's".

The recurring theme was the constraints of falling rolls leading to reduced staff, which leads to cutting back to basic provision, yet the temptation is to try to get back to the achievement and exhilaration of the introduction of the examination course in better resourced times.

"There was a great deal of excitement at first because the possibilities seemed endless".

The processes which led to implementing the CSE are still operating in the development of an alternative outlet for interests and energies in implementing outdoor pursuits activities and a Duke of Edinburgh's award scheme for 6th formers.

"The next step is going to be the Duke of Edinurgh's award scheme for sixth formers which is similar to the CSE, but much easier and manageable".

3.4.3 The Place of Process Principles in Maintaining a Grassroots Innovation

The analysis of the formal interviews established that the negotiations were being resolved in a manner which indicates that the development of the curriculum-as-practice principles are being threatened but to some extent maintained. This conclusion is further supported by the impressionistic interpretation of individual teacher's responses. The accounts of the acceptance model teachers indicate that curriculum developments are taking place which to some extent meet the criteria of curriculum-as-practice and recognize the importance of interrelationships, allows for interpretations, take account of the necessity for on-going modification and encourage individuals identification. The accounts of the alternative outlets model teachers,although describing retreat from the examination course, indicated at the same time that curriculum-as-practice principles were being maintained and the curriculum development ambitions were merely being deflected. Although the innovation has not survived in the simple sense with these teachers, and the examination scheme has been discontinued, the basic curriculum objectives have been carried forward most successfully. These accounts would also indicate that although teacher autonomy and commitment have to some extent been reduced there is evidence of it still remaining in some situations.

Despite considerable pressure from the consequences of falling rolls and economic restraints, effects of Board standardization and more restrictive regulations, excessive time demands and role change, the conclusion is that the level of the teachers' commitment overall has diminished but is on balance being main-

tained. The teachers have continued to some extent to pursue the grassroots innovation. This is partly due to the gratifying responses of the pupils and the exhilaration of engaging in a challenging activity. The two alternative outlets model teachers, although in one sense they have retreated, have in a very positive fashion continued to develop the innovation.

It is difficult to define when an innovation loses its initial identity. Similarly when a development, which continues to be implemented in the form it was planned, can no longer be classified as a desirable development. On the evidence of the interpretation of the individual teachers responses the physical education examination course is surviving, as is the curriculum development, both to some extent within, and in a significant way, outside the examination scheme.

The analysis of the teachers' accounts also confirmed the theoretical analysis which indicated that it is possible to identify different levels of modification, interaction, interpretation and identification in curriculum developments. This suggests a relationship of curriculum-as-practice criteria to process principles.

3.4.4 Headteacher and Deputy-Headteacher's explanations for schools withdrawing from the examination.

Of the 25 schools where schemes had been accepted at the start of this investigation in January, 1976, 14 had withdrawn by October, 1983. To establish the reasons for withdrawal the headteacher or deputy-headteacher responsible for examinations was contacted by telephone and asked to indicate the reason for withdrawal. No one

raised any objections to the request and most gave the impression of being quite pleased to discuss the developments. The reasons given were similar to those the teachers of physical education offered although in some instances it was a combination of factors rather than one single explanation.

The reasons for withdrawing given by the headteacher and deputy-headteachers were:

5 the school's and Board's expectations became incompatible;

5 reduction in number of staff or pupils necessitated reducing the number of options to be made available;

3 staff who initiated the scheme left the school;

3 alternative curriculum developments in physical education were introduced;

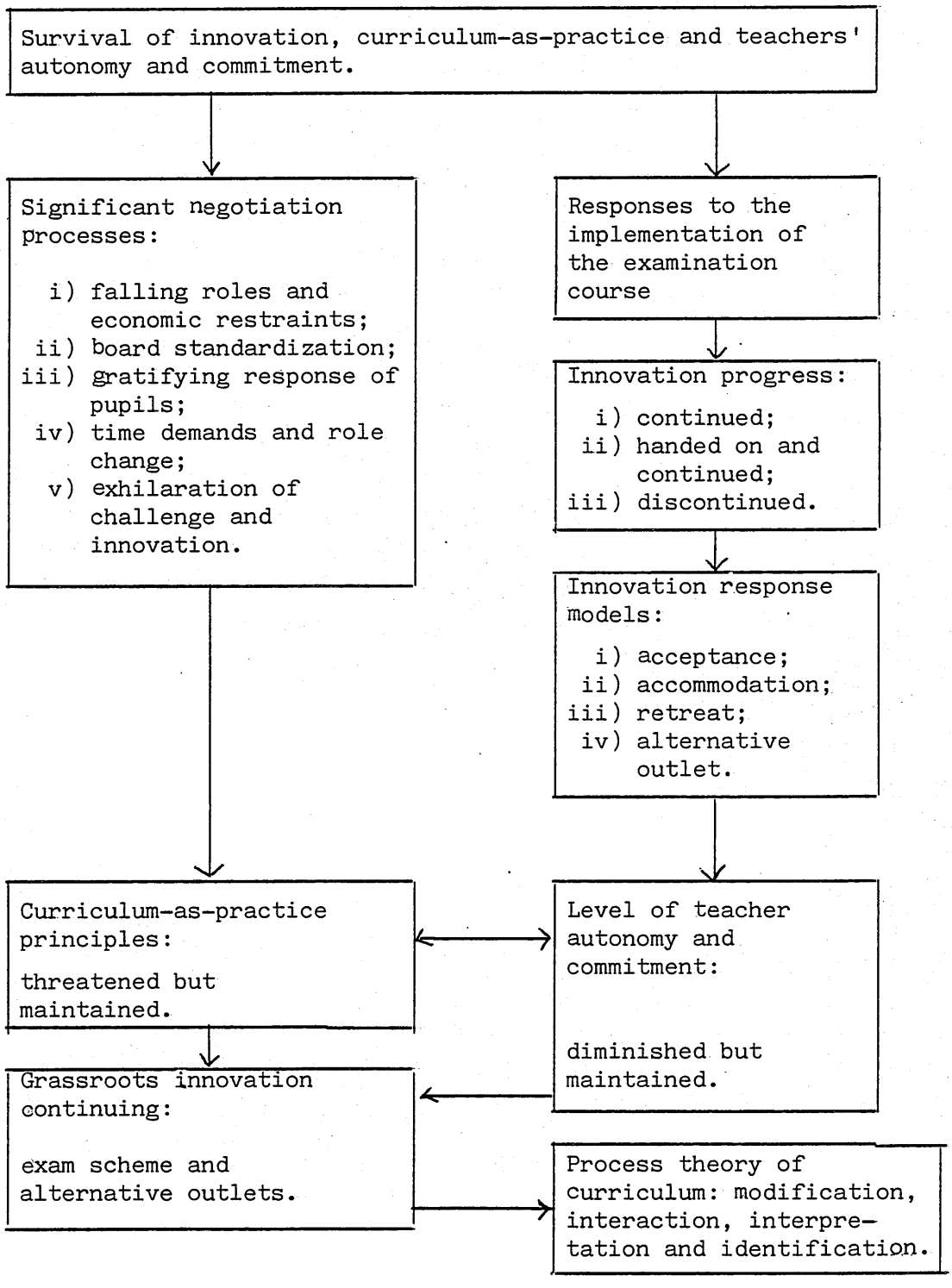
2 school closed or amalgamated;

2 continuation of P.E. course was incompatible with the development of other priorities in the school;

1 not sufficient number of pupils opting for the course.

The findings of this survey were similar to the explanations given by teachers in formal and informal interviews.

DIAGRAM 6. Importance of Level of Modification, Interaction, Interpretation and Identification in Curriculum Innovation



3.5 Summary of the Findings

From the evidence of this investigation a grounded theory of curriculum innovation has emerged which has a distinctive modified subjectivist perspective. This is a perspective and theory which is economically defined in terms of the process principles established in the course of this investigation. The degree of success of a curriculum innovation and extent to which career satisfaction, investment and commitment can be maintained against structural constraints and standardization is determined by the degree of opportunity for modification, interaction, interpretation and identification maintained in the implementation of the curriculum.

Moving from the theoretical plane the substantive findings of the investigation in the areas of innovation, curriculum and role change can be reported at two levels. First the level of established findings of accommodation and objectification and secondly at the more tentative perception, identification and definition level of knowledge.

At the objectification level a number of developments have been established.

(a) There was a rapid take-up which reached a plateau. There is evidence that this levelling off was to some extent due to changes occurring in response to a growing conservative emphasis in the educational climate which was discouraging Mode III initiatives nationally. Other growing structural constraints which influenced the rate of growth were economically and demographically determined and brought about

by a reduction of available resources at a time of falling school rolls. In some schools the optimum number of teachers to teach the courses were not being made available and in others the number of options had to be reduced to make them numerically viable.

(b) Examination system standardization grew rapidly and there was firmer imposition of Mode I product orientated examination regulations such as a prescribed definition and content of physical education and the reduction of opportunities for interaction and dialogue between teachers and Board moderators. This together with the imposition of limited examination forms reduced the range of modifications and interpretations possible, consequently the attraction of teaching Mode III schemes for some teachers.

(c) Some curriculum problems specific to physical education were encountered which presented special difficulties for teachers introducing the courses. First the introduction of an academic dimension to the subject in the school curriculum where none had previously existed. Secondly there was considerable famine of information and teaching materials which might have been solved by the introduction of centrally planned curriculum innovation, but the nature of grassroots innovation prevents a solution being easily found for this. Thirdly the absence of any correlation between marks for practical performance and academic ability, and gender differences created marking problems which contributed to the difficulties to be overcome in this innovation.

(d) Role modification which took place was considerable and initially made the endeavour attractive by giving teachers a sense of excitement and commitment and the satisfaction of a more academic and mature relationship with the pupils. The excessive increase in amount of work required to provide course development, implementation and examination materials, develop examiner's skills eventually led to some teachers feeling less enthusiastic about the work. Similarly, a number of teachers indicated that the course became considerably less attractive to them when the quality of the pupils registering for the course was lowered. This occurred frequently because of secondary school re-organisation.

(e) The teachers responded differently to the implementation of the examination courses and changing context and demonstrated, either acceptance, accommodation, retreat or alternative outlet responses.

(f) Despite the constraints of various kinds, the quality of the negotiations which took place between the teachers and what was to some extent a privileged group of physical education pupils, justified the continuation of the courses. In addition some negotiation processes were being resolved in a manner which allowed the continued development of curriculum-as-practice but outside the CSE scheme.

A number of more tentative findings, at the level of perception, identification and definition, have emerged which appear to be important negotiation issues, but need to be considered more intensely before their status as objectified knowledge is established.

(a) A distinctive modified subjectivist, possibly process, theory is being defined which has been valuable in assisting the investigation of a grassroots curriculum development. It appears to have been particularly useful in indicating the value of adopting negotiations as the processes for analysis, and provided the basis for the development of a coherent methodology for the analysis of the user dimension of an innovation. Although basically subjectivist, interactionist and phenomenological it has on pragmatic grounds been modified to recognize some critical and positivistic theory principles.

(b) An interesting curriculum issue which is becoming apparent is what might be an inherent conflict between the principles associated with the development of the curriculum-as-practice and any formalised examination system. One major ambition of Mode III examination supporters, was to develop an examination which did not interfere with the teachers' intentions to develop courses which were right for the context in which they were situated. Distinctive Mode III moderation standardization techniques which were holistic, involved, evolving, subjective, interactive procedures, if developed might have been able to cope with examinations created in response to that particular examination ambition. If profiling statements, for examples, were to be developed as a Mode III examination strategy they would not be satisfactorily moderated if the emphasis was upon statistical procedures. What has happened is that Mode I procedures, more suitable for standardizing norm referenced, rather than criterion referenced, examinations, are increasingly being introduced.

(c) In a similar way the role of the teachers engaged in this work

is expected to be adapted to develop an examiner's perspective with a bureaucratic mentality, rather than an educator's which is more concerned with being a facilitator. A transformation of this nature might be inevitable following the introduction of any examination activity.

(d) The evidence is that teacher autonomy has been reduced, and indications are that in some cases this leads to decline in commitment to the development. It appears that although some teachers accommodate, others do opt out of or revert to minimum involvement, when negotiation possibilities are limited by structural constraints and system standardization, but the relationship between these factors is not predictable.

4.0 Processes Involved in an Examination Linked, Teacher Based Curriculum Innovation in Secondary Education: Conclusions and Implications

4.1 The Study of a Grassroots Curriculum Innovation

Existing theory emphasised the importance of central planning for the success of curriculum innovation. The contribution of the user was a relatively underdeveloped field of investigation (C.E.R.I. 1973). This project aimed to identify the processes which affected the development of a grassroots innovation as a means of focussing on the factors influencing or being influenced by the user of the innovation: the teacher. The apparent success of curriculum development in the implementation of CSE Mode III courses in physical education, which had been teacher initiated, appeared to contradict the established belief emphasised in commentaries by Bennis, et al. (1970) of the importance of central planning and support. It was therefore a suitable development to study in order to focus upon the contribution of the teacher and took the form of a case study of the development of CSE Mode III schemes in physical education in one examination board using participant observation methods carried out between 1976 and 1984.

4.2 Modified Subjectivist Theory and Methodology

The investigation set out to be exploratory rather than confirmatory. It adapted and developed a modified subjectivist theory and associated methodology, which was considered suitable for concentrating on the teacher's contribution to curriculum innovation. The orientation is identified on a subjectivist to objectivist continuum rather than in relation to other associated concepts

such as phenomenology and interpretative stances, as the analysis of sociological theory by Burrell and Morgan (1979) was found to be appropriate for conceptualizing the theoretical focus of the study. This focus was influenced very strongly by the critical discussion principles of Popper (1972) and the comparative analysis methods of Glaser and Strauss (1968). A particular view of the world, education, innovation, curriculum and examinations is taken which assumes that the process principle of maintaining interaction, identification, ongoing modification and making allowances for interpretation is a desirable outcome of action in these fields. It is neither positivistic nor totally interpretative. Testing specific theory was not built into the design of the study, but theories from a variety of fields and perspectives helped to concentrate the investigation on the negotiation issues in curriculum development highlighted by House (1974) and Walker and MacDonald (1976). Negotiation is defined as the process in which individuals or groups are engaged, in response to situations, and which results in new knowledge, understanding and definitions. These lie on a continuum running through the processes of perception, interpretation, definition, dialogue, accommodation to objectification. The report is a description and analysis of the negotiation processes which took place in the implementation of the grassroots curriculum innovation, and how the new situation was defined by the participants. The main focus of the negotiations was the need to balance individual expectations with the changing demands of the system.

The modified subjectivist theory with its process perspective and associated analytical techniques appears to be useful, sensible and sensitive, once the basic ideological position has been accepted, and these can be adopted for investigations in similar

fields. A model for an ongoing investigation was developed which should be transferable to the study of similar problems where single stage testing is inappropriate. The concept of negotiation needs more testing before its usefulness can really be evaluated. It helped to clarify and organise this study because it emerged from the data and the problem, as well as having a place in established literature, (Glaser, 1978).

4.3 Developments in the Physical Education Curriculum

The introduction of the examination courses opened the physical education curriculum to extensive new possibilities, but the new knowledge and changes, which have been negotiated in the implementation of the CSE Mode III in this one examination board, appeared in most cases to reduce the importance of educational process in favour of educational product. The main objection to examinations in physical education in the literature, and which is clearly stated in the Secondary School Examinations Council's statement in 1963, was the threat of curriculum-as-practice being replaced by curriculum-as-fact. More specifically in physical education terms this means achievement being rewarded and recognised before experience. This has to some extent occurred already in the way the subject has been defined by the Board. The curriculum is seen not so much as being the outcome of human production and therefore concerned with relative achievement and personal contact, but as a commodity in which the emphasis is absolute standards and detachment (Young, 1975). Yet the individual negotiations which took place could be seen as being resolved in favour of both practice and fact and, in some cases, could evolve as either.

Possibly the most important development was the introduction of an

academic dimension linked to practical work. What counts as physical education knowledge has been socially reconstructed, (Berger and Luckmann, 1967). A problem associated with this was the absence of texts written at a suitable level for secondary pupils. A different kind of information famine encountered by physical education teachers was the absence of any guidance on how to develop an examination scheme in the subject. Three very specific difficulties encountered in developing examination procedures were the intrusion of gender differences which are more of a problem than in other subjects, very special problems in demonstrating the objectivity of marking ephemeral practical work, and aggregating marks for totally different skills; academic and practical.

The demonstration that physical education can be examined at the school level has increased the possibility of extending the examination of the subject in the schools examination system. Considerable activity is currently going into developing 'A' level syllabuses, implementing the Dunning Report in Scotland and justifying a place in a common examination at 16+. An alternative to Mode III and 16+ which could become significant and deserves careful study is the modular contribution to vocational preparation courses and secondary school courses advocated in the Hargreaves Report (1984). There are important implications for the initial and in-service training of teachers of physical education to accommodate this curriculum change.

4.4 Structural Constraints

In the early years of operation the Examination Board allowed considerable autonomy to the teachers implementing the scheme. Structural constraints then emerged which conflicted with the development of the innovation and particularly its implementation on a curriculum-as-practice basis. This reflected what was happening nationally, (Schools Council 1971, 1977, 1982). It would be easy to claim that conservative forces were at work to ensure that existing power groups and values in society were not being threatened. In the language of the Marxist theorists the institutionalization of the grassroots innovation would be described as a demonstration of the process of cultural and economic reproduction (Apple, 1979).

The structural influences responsible for schemes being withdrawn were economic and demographic. Falling school rolls resulted in fewer options being offered or the number of teachers available to teach options being reduced. The accountability debate of the late 70's, which emerged in response to economic changes, resulted in Mode III examinations coming under public scrutiny and giving this Examination Board an ostensible reason for reducing teacher autonomy and imposing system standardization. Control of content and assessment and common core experience was increased. In a similar manner to that described by Whitty (1976) Mode I examination procedures were imposed on Mode III curricula and philosophy. Interactive negotiation processes, formally associated with Mode III teaching and assessment were reduced. Partly as a result of these structural and system constraints, after a rapid rise in the number of schemes being examined, there was a levelling off of the number of schemes registered.

The period in which the progress of the innovation was being monitored was one when conservative forces were being supported by structural pressures to impose traditional curriculum-as-fact principles and procedures (Schools Council, 1982). Presumably if the existing climate is maintained then examination rather than educational priorities will continue to be supported and teacher autonomy will be reduced even more. Should there be a return to more progressive, individual orientated times then, if structural pressures are neutral rather than hostile, there could be a resurgence of teacher initiatives in relation to assessment schemes. It might be, on the other hand, that conservative values and practices are intrinsic to examination activities and therefore the autonomy lost will never be regained. It is not possible to ignore altogether the demand for public accountability and standardization in national examinations no matter how pressing are the particular educational needs. The challenge is to maintain the commitment to educational values without creating public dissatisfaction and disaffection. This is the challenge Mode III examinations were set up to meet in the first place.

4.5 Balancing Personal Career Statisfaction Against Growing Structural Constraints

A major focus of the investigation turned out to be the negotiations in which the teachers engaged to balance their personal career satisfaction against growing structural constraints and system standardization. Considerable role modification had to be undertaken to implement the course in the first place, and following the increased system standardization being imposed by the Board, the situation became even more demanding for a number of teachers. The perspective adopted in this analysis of role modification

and career statisfaction was the interactionist model of Becker (1971) and others of the Chicago tradition.

The role modifications of the physical education teachers were in many areas: knowledge, skills, perceptions, attitudes and expectations. The extra-ordinary work load increase commented on by most teachers, mainly involved developing examiner's skills, evaluation techniques and examination procedures. Considerable ignorance was identified in these areas.

Teacher commitment proved to be strong and the pressures and threats were traded-off against the gratification arising from heightened relationships established with a privilveged group of pupils and the inner drive and feeling of exhilaration which some teachers reported from being associated with a challenging innovatory project. These features came across as being of considerable importance, particularly from the formal interviews. The teachers involved in this project were early adopters and even amongst these some accepted the drift towards the detachment associated with curriculum-as-fact without a feeling of threat to their autonomy. Any extrapolation would need to keep in mind the innovatory inclinations of this group.

The career satisfaction often associated with developing and implementing curriculum change is that of enhancing status within the profession. This did not emerge as a major contributory factor with this development, as during the period of implementation professional leaders in physical education tended to be antagonistic. Some teachers were rewarded extrinsically by enhanced status within their schools as a result of implementing the examination course, but career satisfaction and professional reward tended to be intrinsic rather than extrinsic.

4.6 Pattern of Development of Innovation

The study identified the pattern of development of the innovation and the way the balance of personal career satisfaction against structural demands changed. The reduction of teacher autonomy and initiative did not lead to a breakdown of the innovation, as curriculum-as-practice theorists might claim. This is possibly because the system remained sufficiently open and allowed for alternative initiatives and some of the satisfaction of interaction associated with the implementation of curriculum-as-practice to remain. The take-up of the innovation levelled off rather than ceased. In two clear cases when the examination scheme was discontinued by the teachers, a different outlet was found for what the innovation originally set out to achieve. It was a pattern which should not be too closely related to the traditional 'S' shaped expectations which Rogers and Shoemaker (1971) indicated was the normal sequence of development for an innovation. The levelling off in the up-take in this investigation might appear to be a good example of reaching a plateau before a decline and eventual upsurge, which existing theory postulates is the result of group dynamics and individual psychological pressures. In the development of this innovation the levelling off pattern is to a considerable extent determined by external structural influences.

The range of the responses which the system was sufficiently flexible to accommodate are indicated by the resolutions of negotiation processes. The four models which were defined from the response of teachers to the changes range through acceptance, accommodation, retreat, to alternative outlet - which were teachers who retreated from the examination scheme but found alternative

outlets for their curriculum development ambitions. The gradual imposition of an examiner's perspective and bureaucratic mentality did not eliminate entirely from the examination scheme the earlier established educator's perspective with the associated priority of facilitating learning. The introduction of Mode I standardized approaches which are objective, detached, statistical and compartmentalized have not totally replaced the more holistic, involved, evolving, subjective and interactive procedures, which were being developed as more distinctive Mode III examination characteristics.

Survival of the innovation appears to have resulted from alternatives being available in the resolution of negotiations which enabled teachers to continue to find personal career satisfaction. The structural constraints and examination system standardization were not totally closed systems and did not prevent this taking place. The grassroots characteristics and continuation of teacher initiatives protected the potential for modification, interaction, interpretation, identification and consequently survival. Yet the examiner's perspective is demonstrated as working against curriculum-as-practice principles and tends to operate as a conservative influence.

The evidence is being interpreted as favouring the setting up of open systems to facilitate the implementation of innovations where the user's input and commitment are important factors to take into consideration. If the innovation is a curriculum development linked to an examination then a contradiction is being created unless the examiner's perspective can be interpreted differently from that demonstrated in this study. This is quite possible as the evidence offered here is based on the practices of

only one secondary education examination board. Other evidence (Whitty, 1976) tends to indicate that the experience recorded here is general.

4.7 Model for Teacher Based, Examination Linked Curriculum Innovation

Examinations became an important concern in this study although they were not seen as being a major area of interest at the outset. Their curriculum links have been clearly demonstrated. It has been shown how they influenced the pattern of development of the innovation, are becoming a more significant feature of the physical education curriculum, and influenced the selection of content and the organisation of teaching as well as assessment methods. One outcome of the investigation is to suggest a model for teacher based, examination linked curriculum development, which takes account of personal career satisfaction balanced against structural constraints, and the negotiation processes adopted in the implementation of curriculum change.

In this investigation the examination link was a conservative influence and encouraged the development of the curriculum-as-fact. The Mode III interactive potential was only allowed to influence the examiner's perspective for a short period. On this evidence an ideology favouring the implementation of curriculum-as-practice must either dispense with examinations or change the examiner's perspective from the bureaucratic mentality with which it is associated to one which can tolerate more open systems and range of alternatives.

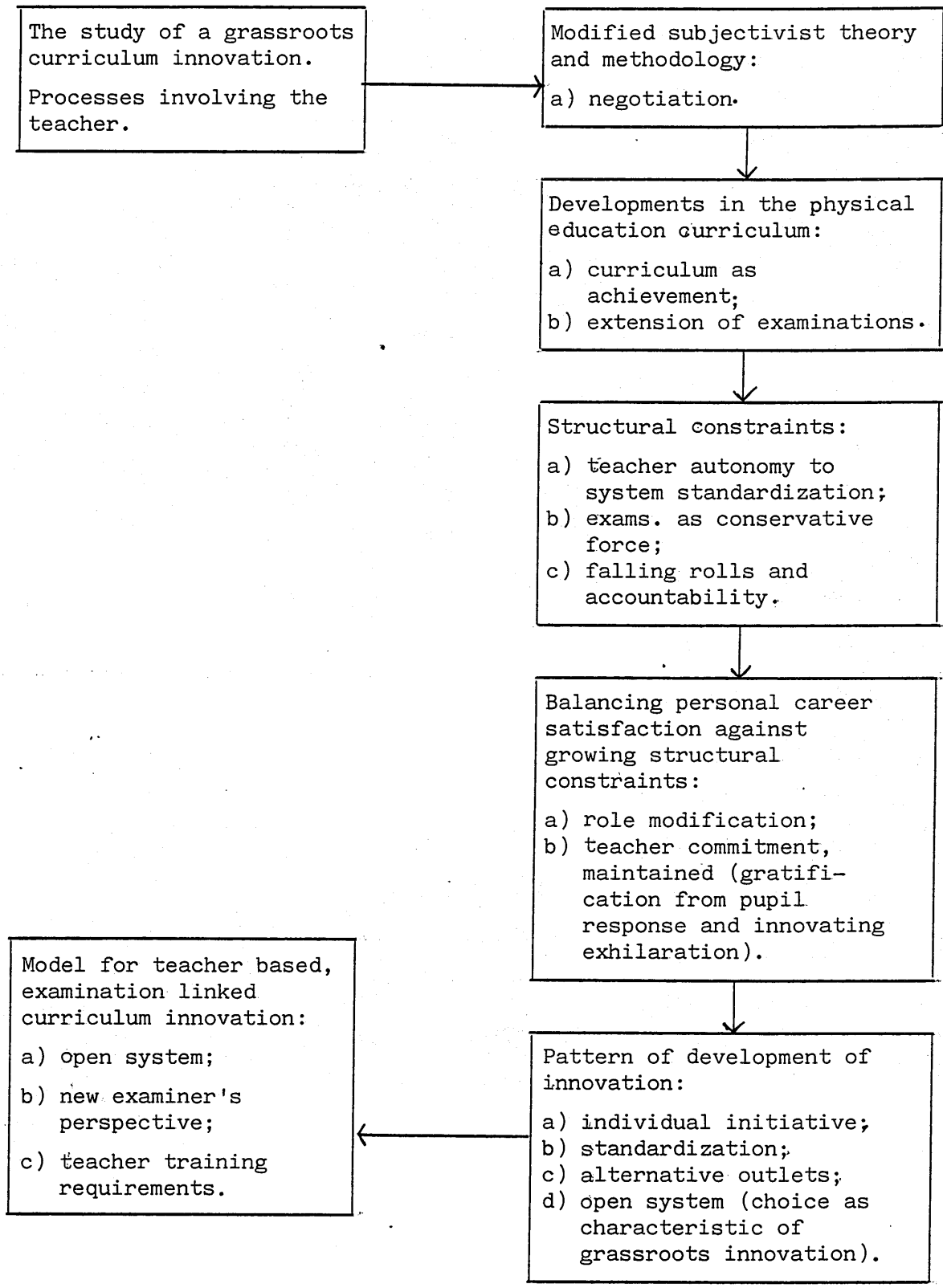
With the development of modular and vocational preparation courses there appears to be a trend in secondary and tertiary education

towards the proliferation of teacher based, examination linked schemes. Examining methods conforming to an examiner's perspective which emphasises achieving justice and rigour by calling for controlled situations, standardization, clear definitions and simplified general solutions, rather than exploring the possibilities of involved, subjective, holistic negotiation procedures in assessment could work against the philosophy of the new courses in the way that Mode I examination procedures began to undermine the Mode III principles in the courses in this investigation. Profiling statements, for example, which appear to have an important place in some of the new programmes, will not be easy to accommodate in a standardized, closed system. Yet, it has to be recognised that real differences in rating behaviour and problems of halo effect exist, when teachers are asked to provide assessments of performance and achievements. Subjective assessment procedures are complicated and require sophisticated examiners to implement them, and the majority of staff involved in the courses which were the subject of this study did not have a suitable initial or in-service training to cope satisfactorily with it.

A model for future curriculum developments aiming to protect curriculum-as-practice features, and also requiring some form of evaluation of the outcome would ensure that three conditions were satisfied. First an open system which allows for alternatives to be introduced will need to be developed. Secondly a conscious effort will have to be made to change the examiner's perspective. Thirdly some form of in-service teacher training in assessment techniques and practices for the teachers involved in the schemes should be implemented in relation to the specific development. In

the long term initial teacher training will have to devote more time to assessment techniques and producing students able to apply themselves to providing particular solutions for solving specific assessment problems and not just capable of over simplified application of established solutions.

DIAGRAM 7. Processes Involved in an Examination Linked, Teacher Based Curriculum Innovation in Secondary Education



5.0 Postscript: review of research methods employed in the study and the findings in relation to recent developments in methodology and to changes affecting public examinations.

A central position adopted in conducting this investigation was the commitment to ongoing discovery. It is appropriate, therefore, to continue to adopt this stance by adding a postscript which draws conclusions on the relationship of the most recent educational and methodological developments and the original thesis. These later reflections will:

(a) contain a section reviewing the study in terms of both a reflexive account of the methods employed and the researcher's role;

(b) bring the study up to date by briefly outlining the considerable changes affecting public examinations (G. C.S.E., profiling and unit accreditation) which deeply affected the C.S.E. examinations and their Boards.

5.1 Review of research methods employed in the study

The aim of the investigation was to identify the important processes, particularly those related to the teacher, operating in the development and implementation of curriculum innovation. The research methods employed in the study were adopted because they appeared to be the ones most likely to achieve this aim. They took account of the research subject selected to facilitate the task and the skills and values of the researcher. The research methods were to emerge from the project requirements in a similar manner as theory was to emerge from the interpretations of the findings; not totally uncontaminated by existing ideology or theory, but as far as possible to grow organically from the research process and not to slavishly comply with existing paradigms and perspectives.

In 1975 when the project was being planned the positivistic versus interpretative debate was gaining in importance, but the traditional scientific paradigm of social science research was still predominant. Engaging in a study which emphasised qualitative rather than quantatitive methods was to align oneself with only a minority in the Education research community. The modified subjectivist orientation and associated methods which were adopted and developed, neither had the support of the dominant positivistic ideology, nor a clearly identifiable alternative sub-culture as a source of methodological legitimation. This was a problem brought about by utilising an eclectic approach determined by criteria of pragmatism and general scholarly rigour. The advantage arising from this adoption of general academic principles rather than the criteria associated with an established discipline perspective is the strength and security which arises from relating to an intrinsically generated coherent theory. Once the central theoretical principles, based on a personal value system and theoretical commitment, had been clarified it became easy to articulate data gathering, data analysis, theory generation and reporting principles compatibly. This is not an uncommon approach to engaging in research as is indicated in Burgess's (1984) collection of first person accounts of research experience.

In the late 70's and early 80's, when the research climate changed to antagonism towards positivism and quantatitive methods, failure to comply with principles associated with clearly established perspectives associated with qualitative research (interactionism and ethnomethodology) was a practice requiring justification. The security provided by the theoretical coherence of the enterprise was important in sustaining confidence in the strategy adopted at that time. Any doubts about the acceptability, utility and sophistication of the modified subjectivists

theory developed in the progress of the enquiry have been dispelled by more recent commentaries. These attempt to reconcile the divisions and polarities and are critical of exhortations to make choices between paradigms and perspectives in theory and methodology if the constituent elements are adequately articulated (Silverman, 1985).

The belief is that the theory and methods adopted in the investigation have not been overtaken by developments in the field and the process approach has enabled modifications to be incorporated in the response to changes taking place in the research world. There also exists in the modified subjectivist theory the potential for development of a much more generalized, clearly articulated and elegant process theory. But, being true to its principles this would only materialize as a result of the implementation in a practical research enterprise. There are a number of issues which have gained prominence in the literature in recent years, which have not been addressed specifically in the report, which might be usefully commented upon in relation to the investigation. (Burgess, 1985, Silverman, 1985).

Ethnographic studies have over the last decade not only become acceptable in educational research, but become a vogue activity. Projects which do not recognise and meet their conditions of naturalism, indexicality and reflexivity are seen from some perspectives as being unacceptably detached from social reality. This research, although never setting out to be an ethnographic study, does incorporate some associated principles and methods, but never attempted to meet the purist criteria. The analytical technique developed as a means of implementing critical discussion (Popper, 1972) and continuous comparison (Glaser and Strauss, 1968) principles, which are central processes associated with modified subjectivist theory, did not depend upon meeting these criteria to achieve the analytic description

required to fit into the coherent theoretical and practical framework emerging from the investigation. The theoretical imperatives and practical requirements were similar to, but not the same as naturalistic research.

Considerable time, energy and thought were invested in developing the accumulative observation and analysis technique which was applied in a mechanistic manner throughout the investigation. In some ways, and in some contexts, this appeared over-elaborate and unnecessary, but as a test of its utility and universality the pedantic application was necessary. It was important to test the enquiry methods as well as the theories which were emerging from the research process. A consequence of this application was that by the end of the work on the project, sufficient experience and understanding had occurred which would enable a more refined and selective application to be implemented with future studies. This does not imply other than peripheral dissatisfaction with the technique and it is in no way indicating any doubt in the process principle that each project by the nature of its subject and context will determine the form of the research design and techniques adopted. It is assumed that research problems will arise to be tackled by researchers with similar skills and values, which will call for techniques which resemble the ones developed in this investigation.

The influence of the researchers' skills and values cannot be discounted. The decision to adopt a formal analytical approach rather than descriptive accounts, conversational analysis or a quantatitive design was clearly affected by the researcher engaged in the work, but the need to analyze macroscopic, structural factors as well as microscopic, interactional processes to really understand the issues involved also played their part. Taking up the modified subjectivist

stance rather than a more extreme subjectivist position made it easier to deal with this range of data. The use of detailed context related descriptions is recognised as being valuable research material, but not for this task where the detailed analysis of a limited number of accounts would have made it less easy to probe the examination board dimension of the issue. Another guiding principle in conducting the investigation was to ensure that the findings had practical as well as theoretical application. This relevance requirement could not be achieved if the wider range of factors and issues had not been probed.

Although in a number of ways the research made an attempt to be an ethnographic study it did not adopt some of their principles and approaches. It was not possible because of the need to probe teachers, moderators and board officials to become completely part of all the social worlds being studied, but achieving inward closeness rather than antiseptic distance to some extent was seen as being important. It was only by attempting this that the different realities of board officials and teachers implementing C.S.E. Mode III courses was identified. Likewise there appeared to be a positive correlation between the number of insights identified during the course of formal interviews with teachers and the level of rapport and familiarity achieved. On the other hand the use of formal interviews, formal analysis to establish concepts and hypotheses which are unacceptable to the more extreme ethnomethodologists and interactionists were a necessary feature of modified subjectivist methodology. Adopting this stance perhaps made it impossible to adequately discover and construct descriptions of conceptual models of those being studied, but it did enable significant insights into some processes related to the teachers, moderators and board officials involved to be recorded.

The theoretical orientation and research methods adopted in the investigation to some extent took account of the importance of reflexivity. The contribution that self-involvement and identification of the researcher with the problem and the process would make to establishing a better understanding of the research problems was a clearly stated act of faith. The importance of this dimension of research activity is shared with Hammersley and Atkinson (1983), the importance of objectification and establishing some form of scientific truth was recognised. These two positions, one which aims to capitalise on subjective involvement and the other to dispense with human perception are very difficult to reconcile other than by accepting it as a form of creative tension which prevents unhelpful extremes of self-indulgent subjectivism and rigid verification being adopted. Its resolution depends upon how objectification is defined and applied in theory and reality. Even Popper's (1972) third world objects are the outcome of human activity and can be known better or adjusted by changed circumstances, consequently it can be argued that closer and more complete was the involvement of the researcher in this project the easier it became to produce valid, reliable information. The opportunity for the researcher and the researched to make more sense of the situation together was made possible by the openness of the interview schedule and the interaction and dialogue of informal encounters. It can be argued that as a result of this enhanced understanding and heightened insight brough about by reflexive involvement, that the researcher's capacity to stand back at specified moments and make objective judgements is increased, but clearly such a claim is contentious. To have pushed the research stance into a more subjectivist position would have been to limit the benefits arising from the reflexive objectification tension.

The benefits from reflexive involvement are best demonstrated by the unique opportunities for gathering information which the researcher operating as the Board's Chief Moderator presented. This strategy was planned originally to lead to an interventionist research design similar to those implemented by Argyris (1970) but the reluctance of the Board to be more than peripherally used in the investigation meant that a less interactionist position had to be adopted. Despite the limitations, the flow of information, opportunities to see first hand the workings of the system and meet a wide range of participants which the insider role made possible were of positive benefit to the investigation. Relating to the participants brought about the release of more information than it closed down and association with the working problems increased the commitment to explore the research problems, knowledge and awareness were clearly increased.

The problem of a researcher entering a natural setting and thereby transforming the situation was prevented as the Chief Moderator is part of the world being investigated. The threat was that of the authoritarian figure of the Board intimidating teachers and reducing or biasing the information being made available to the researcher. This is particularly important and threatening when the association is related to the process of awarding examination marks. The theoretical stance of the project is that objectivity is not possible with social research and although maximum safeguards should be applied to reduce subjective bias to the minimum this should not be at the expense of the advantages which involvement and commitment bring. The practical judgement was that the benefits of operating as Board Chief Moderator were considerable and these compensate for the loss of some insights which might have been forthcoming with less cautious teachers. Corrections to bias in the interpretation would be to some extent achieved by

drawing from a variety of data sources in this investigation, some of which would not be influenced by role intimidation, and also investigations in similar areas by others in the field (Bowe and Whitty, 1984).

Triangulation in terms of different methods of data gathering were deliberately built into the design. Verification or correction which would come from drawing from data collected in natural settings and formal interviews, or at different times, or from documents was considered to be beneficial. This extended to implementing a telephone survey to corroborate by a simple count the reasons for schools withdrawing their schemes. In a number of cases the conclusions which could have been drawn from data gathered by one means had to be adjusted on consideration of data from another source. This was not seen as a limitation of the design and theoretical basis of the study because it interfered with the process of obtaining a consistent natural setting account, but a useful safeguard and a desirable means of arriving at the most acceptable interpretation. The possiblity of extending the triangulation principle to the corroboration of accounts by the interviewees was considered. It was rejected on the grounds that it was not possible to deal with the material collected from informal contacts in this way, and the analysis of formal interview tapes would not be taking place until long after the event and in the main in the form of a fragmented analysis. If the range of data had been less, or it had been planned to use accounts in a way which emphasised the aim of getting the total feeling of the teacher's worlds, rather than simply a flavour in addition to identifying important processes, then triangulation with respondents would have been considered to be an important validation activity.

How important it is to conduct research and report it in a way which has practical benefits and can influence policy is again related to the

fundamental theoretical orientation. Although not stated explicitly in the text there is implicit in the modified subjectivist position, and certainly if it were to be expanded and refined into a process theory, an action dimension. Although the central concern of the investigation was the processes operating in the development of innovation, the emphasis an action orientation would give it arising out of the findings of the study would be different. It would be to making clear policy statements on current developments in teacher assessed examinations. This would be on the grounds that they are currently important at the practical educational policy level. These policy statements could be made in a number of ways, but the major choice is between reporting with all the traditional restraint of a scholar or the personal commitment of an idealogical partisan. The considerable evidence which indicates that system standardization associated with a developing national climate of accountability began to be imposed from the late 70's fits very neatly into a cultural reproduction thesis and there is a great temptation to write about the potential developments in the public examination system from this standpoint in a partisan fashion. On the other hand, the logic of the modified subjectivist stance determined that the report of the investigation should be presented with a restrained commitment appropriate to this orientation. A similar stance will be adopted in the following section which relates the findings of the study to changes affecting public examinations, particularly the planned introduction of G.C.S.E. in September 1986.

5.2 Outline of the changes affecting public examinations in relation to findings of the investigation

Evidence in the study which is related to the changes affecting public examinations which have begun to take place since the report was completed:

1. the system standardization and reduction in teacher autonomy which took place in response to accountability pressures; mainly the imposition of product orientated, curriculum-as-fact examination regulations;

2. the different responses of teachers to increasing standardization and examination board intervention;

3. the possibilities and limitations of examining practical skills at 16+;

4. the role modifications required of teachers implementing school based courses and examinations;

5. the importance of providing opportunities for modification, interaction, interpretation and identification in courses if successful curriculum innovation and teachers' career satisfaction is to be achieved;

6. the replacing of Mode III by Mode I examination and moderation techniques;

7. the identification of an examiner's perspective with a bureaucratic mentality as compared with that of the educator's which is that of a facilitator.

In the last five years there has been a decline in the level of schools' influence on the curriculum and examinations at 16+. Following rapid expansion in the 70's C.S.E. Mode III courses ceased to expand and the proportion of G.C.E. Mode III declined (Bowe and Whitty, 1984). A secretary of the Board when asked in November 1985

if support for Mode III had changed responded:

> "In the last five years Mode III's have declined a little bit, but not in all subjects. The reason for the slight decline being that considerably more rigour was being imposed and schools were being expected to bring Mode III courses into line with Mode I's."

This is a development against which the new 16+ public examination, G.C.S.E., proposals are being implemented. Deciding whether or not it is a capitalist conspiracy or because of sound academic judgment is not going to be resolved by the evidence of this investigation, but it is likely that the answer lies somewhere between the two. What is clear is that teacher autonomy and influence on course development has been reduced and this decline is likely to be accelerated.

In the regulations for implementing G.C.S.E. any school wishing to offer a Mode III course has to submit their proposals in a limited time against national subject criteria which have only recently been published. For physical education for which subject criteria have not been developed the proposals have to be submitted in relation to general criteria. This means that all the pressures and role modification which teachers responsible for implementing Mode III courses have experienced in the past, which are very clearly demonstrated in this investigation, are going to increase. There will be the addition of considerable uncertainty, time pressure and as the teachers see it a great lack of enthusiasm for Mode III alternatives by the Board. It has been shown that tackling individual curriculum development leads to very hard, time consuming work which many teachers who have supported Mode III courses in the past will be reluctant to accept in the present situation. It is inevitable that the decline in Mode III courses of recent years will become a very rapid fall in 1986 when it is proposed to introduce G.C.S.E. Schools can also offer a

justification for withdrawal with the argument that the new examination based on sound subject criteria with a range of examination methods including teacher controlled stage assessments will be a much more satisfactory experience for the children in schools than that offered by former Mode I courses which were limited to an end of course examination which also dominated the syllabus.

In addition to this loss of teacher control over the curriculum and examinations on an individual basis it could also occur in a more institutional form. The C.S.E. Boards, more than the G.C.E. Boards, have been influenced by the schools rather than the universities. The new conglomerations of the 20 Boards into 5 Area Groups could become dominated by the values and practices of the old G.C.E. Boards. The responsibility for the upper grades of the examinations have been put upon the G.C.E. Boards which means that in debates within the 5 Area Groups, the C.S.E. representatives will be in a position of disadvantage as it is relatively difficult to win positions of influence when representing a relatively non-prestigious activity. A consequence of this might be that standardization pressure within the public examination system could be increased rather than decreased in the near future, particularly as the new Groups will have to prove themselves in a conservative climate.

The evidence emerging from the examination group, to which the Board featured in this study is associated, indicates that it is being very responsive to schools interests in these early stages. This is similar to the early experience of many schools opting for Mode III examinations with C.S.E. Boards. A demonstration of this is the willingness of their subject committee to develop alternative woodwork and metalwork syllabuses, as well as an integrated Craft, Design,

Technology subject. This was not originally intended to be an interpretation of the national criteria and the professional leaders in the subject are very antagonistic towards any dilution of the one broad integrated approach. It is pressure from schools which has been for providing them with what they know they can cope. The principle being followed at the moment is that subject committees should always have an eye on what schools want. This can change, and the really crucial influence here will be the Secondary Examinations Council which has begun to operate in an extremely interventionist way.

The growth of common Secondary Schools has led inevitably to the implementation of a common examination at 16+. This immediately presents a problem of scale. How are the new Area Groups, not amalgamations, going to cope with the efficient administration of the large number of candidates relating to one examination? Not only the scale, but also the complexity of the new examination will be considerable. The decision to expect at least 20% of the marks for G.C.S.E. subjects to be allocated for course work presents the need for extensive moderation activity. This increase of scale and complexity will be a problem if the external control on schools examinations is expected to continue at the level we have come to expect. It has been argued (Broadfoot, 1984) that the existence of national standards in the form of grade criteria could justify less rigid external control. This could lead to a change to monitoring at school and local level.

Subject criteria, and domain and module grade criteria not only make it possible to identify and achieve national standards, but also the opportunity for developing educationally sound individual diagnostic procedures (Black and Dockrell, 1984) which can then be related to teaching processes (Black and Broadfoot, 1982). This would be an

innovation of great educational merit. Similarly there are a number of pressures for vocationalism and relevance in the implementation of the certificate. Whilst this is in the main considered desirable it has to be appreciated that there are difficulties in achieving this within a subject centred curriculum. Examinations testing skills and application are difficult to control, but this investigation has demonstrated in one skill area that is possible, but not if the same degree of comparability is expected as that attainable with an end of course examination in mathematics. Whether or not the full potential of these features of the G.C.S.E. are exploited educationally will depend upon how the regulations allow them to be implemented and monitored.

As well as G.C.S.E. developments which are already clearly written into the regulations, there are also trials of the recording of achievement which could be related to the examination system at 16+. Again pushed by the interests of industrial and commercial relevance the need is seen to expand the traditional school reports into something more all embracing and useful. How successfully aspects of records of achievement, e.g. profile statements and graded tests, will be associated with 16+ examinations not even those involved in monitoring the trials can predict (Broadfoot and Steirer, 1985). What is known from the experience of this study of innovation is that there will be a differential level of acceptance and creative utilisation and the greater opportunity for modification, interaction, involvement and interpretation there is in its implementation then the more teachers are likely to adopt it effectively. Again it is a development of great educational potential which could help to bring examinations and assessment into the middle of the learning and teaching stream.

Credit accumulation which will be allowed to operate under new Mode III regulations is a G.C.S.E. development mirrored in other public examinations, i.e. C.P.V.E., Scottish S.C.E. and National Certificate. There will not be the same degree of anxiety about accumulated module assessment in the further education as the secondary sector, as there already exists in City and Guilds and B.T.E.C. a tradition of course work moderation. Yet there is some evidence of increasing interest in trials of moderation instruments and other strategies aimed at improving comparability. The crucial issue here is whether anything can be developed at an acceptable cost. The efectiveness of open strategies for moderating Mode III courses which required more frequent visits to schools of moderators were limited by the tight Examination Board budget.

It is possible to see the introduction of the G.C.S.E. together with other related development as being one of the most progressive innovations implemented in English education. Subject criterion have in the main been defined broadly and there has been an extension of variety of forms of assessment in the examination system. The difficulty arises from the basic conservatism of examination structures, the scale of the operation being introduced, the limited financial resources being made available and the prevailing climate of standards and accountability.

There is a view that public examinations are most effective when associated with a high level of uniformity (Mathews, 1985). It appears that with the large numbers of candidates involved, wide differentation, teacher assessment of course work, credit accumulation and eventually links with records of achievement it might be a situation where a public examination is attempting too much. This could be particularly true if in its implementation standardization and

moderation techniques typical of Mode I were adopted. The only way of then making it succeed would be to limit the development to a minimum and make no attempt to relate the different elements, or encourage the new learning, teaching and assessment possibilities. If on the other hand more open, school based standardization and moderation procedures were accepted which do not place such great priority on immediate comparability then the size and the cost of the task might be reduced dramatically. The compromise which might be necessary to maintain public confidence would be to use some form of moderation instrument similar to that developed by Nuttall and Armitage (1983) for the Technical Education Council. This could be the adjustment of school assessment elements by reference to marks gained on some or all final papers externally marked or a specially developed test of ability or achievement. Uniformity will be very hard to achieve with this examination innovation if the emphasis is placed on educational rather than examination criteria.

If greater responsibility were to be put on schools or local consortia for marking and moderating examinations then a teacher community with a high level of understanding of examination and assessment principles would be required. Physical Education teachers in the sample did not have the necessary training and it is unlikely that many others do either. The cascade model of in-service training which has been proposed might be an adequate solution if all that was being proposed was the replacement of an end of course written examination with something similar, but one study has raised some doubts about that (Black 1985). The amount of in-service and initial teacher training which will be required to equip teachers with a broad understanding of the required curriculum development and assessment practices is only just beginning to be appreciated. The recent increase of grant being made available for phase 3 training

indicates a growing awareness of the extent of the task. What is now needed is an allocation for replacement teacher costs for a phase 4.

There is a fundamental conflict in two basic aims of the current public examination proposals. The aim of maintaining examination standards and making schooling relevant call for different frameworks to be successful. The standards aim calls for easily controlled, uncomplicated assessment approaches, but the relevance aim can only be met by complex arrangements. The existing G.C.S.E. proposals can be implemented in two ways: one very radically and interpreted in a facilitator mode to bring teaching, learning and assessment together in a way which has never before been possible in secondary education, the other in a very limited bureaucratic way. The first will satisfy relevance and the second examination standards criteria.

From the evidence and perspective of this study the policy advice on how to implement the G.C.S.E. would be to accept the complex options. In order to ensure that advantage was taken of the opportunities to relate learning, teaching and assessment, and also ensure maximum motivation for the pupils, opportunities to incorporate records of achievement, credit accumulation and make diagnostic use of grade criterion referencing of domains and modules should be taken up. Comparability could be achieved by setting up a school based system of moderation which incorporates an examination board regulated moderation instrument.

BIBLIOGRAPHY

ADAMS, R.S. and CHEN, D. (1981) The process of educational innovation. Kegan Page, Paris.

ALDERSON, J.K. (1978) Examinations in P.E. - An attempt at clarification
Brit. J. of Physical Education Vol. 19. No.5, pp.125-6.

ALMOND, L. (1978) Alternative approaches in curriculum planning. Brit. J. Physical Education. Vol.9, No.3.

ANDREWS, J.C. (1971) The curricular aims of physical education. Mimeographed copy of a paper presented to A.T.C.D.E. (P.E. section) Annual Conference, 1971.

ANDREWS, J.C. (1976) Some aspects of evaluation in the everyday teaching of physical education. F.I.E.P. Bulletin, Vol. 46, No.3, pp.57-65.

APPLE, M.W. (1979) Ideology and curriculum. Routledge Kegan Paul.

ARGYRIS, C. (1970) Intervention theory and method. Addison-Wesley. Reading, Mass.

ARMSTRONG, N. (1976) C.S.E. - The development of a group scheme in Leicestershire. Brit. J. of Physical Education. Vol.7, No.6.

BARROW, R. (1976) Common sense and the curriculum. Unwin.

BAYMAN, D.M. (1980) A cross-cultural analysis of curriculum development projects in physical education. M.Ed. thesis Univ. of Liverpool.

BECKER, H.S. (1964) Personal change in adult life. Sociometry, Vol.27, No.1. pp. 40-53.

BECKER, H.S. (1970) The career of the Chicago public schoolteacher. In: Becker, H.S. (ed.) Sociological work. Aldine, Chicago.

BECKER, H.S. (1971) Sociological work. Allen Lane.

BECKER, H.S., GEER, B. and HUGHES, E. (1968) Making the grade. John Wiley.

BELOE REPORT (1960) Report of the committee on secondary schools examinations other than G.C.E. HMSO.

BENNIS, W.G., BENN, K.D. and CHIN, R. (1970) The planning of change. Holt Rinehart Winston.

BERGER, P.L. (1966) Identity as a problem in the sociology of knowledge. European J. Sociol. Vol.7, pp. 105-115.

BERGER, P.L. and LUCKMANN, T. (1967) The social construction of reality. Penguin Books, Harmondsworth.

BERNBAUM, G. (1977) Knowledge and ideology in the sociology of education. MacMillan.

BILBOROUGH, A. and JONES, P. (1973) Developing patterns in physical education. Univ. London Press.

BLACK, H.D. (1985) Centre-peripheral change in assessment; does it work. Unpublished papers BERA Conference, Sheffield University.

BLACK, H.D. and BROADFOOT, P. (1982) Keeping track of teaching. Routledge Kegan Paul.

BLACK, H.D. and DOCKCRELL, W.B. (1984) Criterion referenced assessment in the classroom. Scottish Council for Research in Education. Edinburgh.

BLOOMFIELD, B. et.al. (1977) Mode comparability in the CSE. Schools Council Exam, Bulletin 36, Evans Methuen.

BLUMER, H. (1972) Society as symbolic interaction. In: Manis, J. and Meltzer, B. Symbolic interaction. Allyn and Bacon.

BLUMER, H. (1979) Concepts in the analysis of qualitative data. Sociol. Rev. No.4, Vol.27, pp. 651-678.

BOLAM, R. (1975) The management of educational change. In: Harris, A., Lawn, M. and Prescott, W. (eds.) Curriculum innovation. Croom Helm.

BOWE, R. and WHITTY, G. (1984) Teachers, boards and standards: assessment in English public examinations at 16+. In Broadfoot, P. (Ed.) Selection, certification and control, Falmer Press.

BROADFOOT, P. (1979) Assessment, schools and society. Methuen

BROADFOOT, P.M. (1982) Alternatives to public examinations. Educational Analysis. Vol.4, No.3, PP.33-45.

BROADFOOT, P. (Ed.) (1984) Selection certification and control, Falmer Press.

BROADFOOT, P. and STEIRER, B. (1985) Records of achievement in schools. Unpublished paper BERA Conference, Sheffield University.

BRUYN, S.T. (1966) The human perspective in sociology. Prentice Hall, Englewood Cliffs.

BROCKINGTON, D. et.al. (1983) Implementing the 14-18 curriculum: new approaches. Schools Council.

BURGESS, R.G. (1984) The research process in educatioinal settings. Falmer Press.

BURGESS, R.G. (1985) Strategies of educational research: qualitative methods. Falmer Press.

BURRELL, G. and MORGAN, G. (1979) Sociological paradigms and organisational analysis. Heinemann.

BYNNER, J. and STIBLEY, K.M. (1978) Social research principles and procedures. Longman.

C.A.R.E. (1974) Innovation, evaluation, research and the problem of control. Univ. of East Anglia. Norwich.

C.A.R.E. (1977) Theory in practice. Univ. of East Anglia. Norwich.

CARLSON, R.O. et.al. (1965) Change processes in the public schools. Centre for Advanced Study of Education Administration. Univ. of Oregan.

CARROLL, R. (1976) Evaluating lessons. Brit. J. of Physical Education. Vol.7, No.6.

CARROLL, R. (1982) Examinations and curriculum change in physical education. Phys. Educ. Rev. Vol.5, No.1. pp. 26-36.

CARROLL, R. (1984) Developments in CSE and the leisure paradox. Physical Education, Vol. 15, No.1.

CARROLL, R., and MacDONALD, A. (1981) Male physical education teachers' opinions about physical education examinations in schools. Bul. Phys. Educ. Vol.17, No.1. pp. 27-31.

CENTRE FOR EDUCATIONAL RESEARCH AND INNOVATION (1969) The management of innovation. O.E.C.D. Paris.

CENTRE FOR EDUCATIONAL RESEARCH AND INNOVATION (1972) Research and innovation. O.E.C.D. Paris.

CENTRE FOR EDUCATIONAL RESEARCH AND INNOVATION (1973) Case studies of educational innovation. O.E.C.D. Paris.

CENTRE FOR EDUCATIONAL RESEARCH AND INNOVATION (1976) Case studies of educational innovation: strategies for innovation in Education. O.E.C.D. Paris.

CHAPPELL, R. (1978) Examinations in P.E. Brit. J. of Physical Education. Vol.9. No.1. pp.6.

CHRISTIE, T. and FORREST, G.M. (1981) Defining public examination standards. MacMillan Education.

CICOUREL, A.V. (1964) Method and measurement in sociology. Glencoe. The Free Press.

CLOSE, J. (1974) Examinations in P.E.: A case study of a group scheme. Brit. J. of Physical Education. Vol.5, No.6.

CLOSE, J. (1975) The Stoke-on-Trent groups C.S.E. (Mode 3) scheme. In conference report: "Teaching physical education to-day and to-morrow". Madeley College.

CLOSE, J. and GOTT, D. (1976) Examinations in physical education. In: Glaister, I.K. (ed.) Evaluation in physical education. NATFHE Conference Report.

COHEN, L. and DEALE, R.N. (1978) Assessment by teachers in examinations at 16+. Schools Council Exam. Bulletin 37, Evans Methuen.

DENZIN, N.K. (1970) Sociological methods: A source book. Butterworths.

DEPARTMENT OF EDUCATION & SCIENCE (1980) A view of the curriculum. H.M.I. series: Matters for discussion II. HMSO.

DEPARTMENT OF EDUCATION & SCIENCE (1983) Curriculum 11-16 towards a statement of entitlement. HMSO.

DOVE, C. (1977) Examinations in dance. Brit. J. of Physical Education. Vol.8, No.4.

DUFF, A. (1977) On examinations - again. Brit. J. of Physical Education. Vol.8, No.2.

DUNNING COMMITTEE REPORT (1977) To review assessment in third and fourth years of secondary education in Scotland. HMSO.

EBBUTT, D. (1981) Three approaches to multi-site case study. Mimeographed report Cambridge Institute of Education. Cambridge

EGGLESTON, J. (1977) The sociology of the school curriculum. Routledge Kegan Paul.

EGGLESTON, J. and GLEESON, D. (1977) Curriculum innovation and the context of the school. In: Gleeson, D. Identity and structure. Nafferton. Driffield.

ELLIOTT, J. (1980) Implications for classroom research for professional development. In: Hoyle, E. and Megarry, J. World Year Book of Education. Kegan Page.

ELLIOTT, J. and ADELMAN, C. (1976) Innovation at the classroom level. In: Walker, R. et.al. Innovation, the school and the teacher. Open University. Milton Keynes.

EMERY, F.E. and TRIST, E.L. (1973) Towards a social ecology: contextual appreciation of the future in the present. Plenum.

ESLAND, G.M. (1971) Teaching and learning as the organisation of knowledge. In: Young, M.F.D. Knowledge and control. Collier- MacMillan.

EVANS, E.G. (1971) Knowledge testing in physical education. Bulletin of Physical Education Vol.8, No.7, pp. 30-37.

EVANS, J. (1976) An argument against examinations. Brit. J. of Physical Education. Vol.7, No.1, pp. 110.

F.E.U. (1982a) A basis for choice (2nd ed.) Further Education Curriculum Review and Development Unit.

F.E.U. (1982b) Profiles. Further Education Curriculum Review and Development Unit.

FOWLES, D. (1974) CSE two research studies. Exam. Bulletin 28. Evans Methuen.

FRANCIS, J. (1981) The problems facing the development of G.C.E. examinations in physical education. Bul. Physical Education. Vol.17, No.1, pp. 38-46.

FULLAN, M. (1972) Overview of the innovation process and the user. Interchange, Vol.3. Nos. 2-3.

GALTUNG, J. (1971) Data collection. In: Thompson, K. and Tunstall, J. Sociological perspectives. Penguin pp. 518-541. Harmondsworth.

GIBBON, A. (1975) Curriculum development in physical education - the state of play. In: Conference report "Teaching physical education to-day and to-morrow" Madeley College of Education.

GIDDENS, A. (1976) New rules of sociological method. Hutchinson.

GLASER, B.G. (1978) Theoretical sensitivity. The Sociology Press. Univ. of California, San Fransisco.

GLASER, B. and STRAUSS, A. (1968) The discovery of grounded theory. Weidenfeld & Nicholson.

GLEESON, D. (1977) Identity and structure. Nafferton. Driffield.

GLEESON, D. (1978) Curriculum development and social change: towards a reappraisal of teacher action. J. of Further and Higher Educ. Vol.2. No.2, pp.41-51.

GRACE, G. (1978) Teachers, ideology and control. Routledge and Kegan Paul.

GRAMSCI, A. (1973) Selections from the prison notebooks. Lawrence and Wishart.

GRANT, M. (1974) Let's keep exams out of P.E. The Teacher, March 22.

GROSS, N., GIAQUINTA, J.D. and BERNSTEIN, M. (1971) Implementing organisational innovations. Harper Row.

GUTTENTAG, M. (1971) Models and methods in evaluation research. J. for the Theory of Social Behaviour. Vol.1. pp 75-95.

HAMILTON, D. (1973) At the classroom level: studies in the learning milieu. Ph.D. thesis, University of Edinburgh.

HAMILTON, D. et.al. (1977) Beyond the numbers game. MacMillan Education.

HAMMERSLEY, M. and ATKINSON, P. (1983) Ethnography; principles in practice. Tavistock Publications.

HARDING, J.M. and KELLY, P.J. (1977) A study of curriculum diffusion, National Assoc. of Inspectors and Advisers. Autumn, No.17.

HARGREAVES, A. (1982) Resistence and relative autonomy theories: problems of distortion and incoherence in recent Marxist analyses of education. Brit. J. of Sociol. of Educ. Vol.3, No.2, pp. 107-126.

HARGREAVES, D.H. (1984) Improving Secondary Schools. Report of committee on the curriculum and organization of secondary education. ILEA.

HAVELOCK, R.G. (1968) Knowledge production and utilization. In: Eidell, T.L. and Kitchel, J.M. (ed.) Knowledge production and utilization in educational administration. Centre for Advanced Study of Education Administration. Univ. of Oregan.

HAVELOCK, R.G. (1970) A guide to innovation in education. Univ. Michigan. Ann Arbor.

HAVELOCK, R.G. (1971) Ronald G. Havelock. Brit. J. Educ. Technology. Vol.2, No.2, pp.84-97.

HENDRY, A.E. (1970) The expansion of the curriculum and physical education. Brit. J. Physical Education. Vol.1. No.5.

HEXTALL, I. and SARUP, M. (1977) School knowledge evaluation and alientation. In: Young, M. and Whitty, G. (ed) Society, state and schooling. Falmer Press. Ringmer.

HICKMAN, G. et.al. (1973) A new professionalism for a changing geography. Schools Council Geography 14-18 Project Schools Council.

HOMAN, R. (1980) The ethics of covert research, Homan defends his methods. Network, No.18. pp.4

HOSTE, R. et.al. (1975) Continuous assessment in CSE. Exam Bulletin 31. Evans Methuen.

HOUSE, E. (1974) The politics of educational innovation. McClutchan Publishing Corporation.

HOYLE, E. (1970) Planned organizational change in education. Res. in Educ. No.3, pp.21-22.

HOYLE, E. (1972) Problems of curriculum innovation II. Open University, Unit 17, Course 283.

HOYLE, E. (1979) Strategies of curriculum change. In:Watkins, R. (ed) In-service training: Structure and content. Ward Lock Educ.

HOYLE, E. (1976) The study of schools as organisations. In: Butcher, H.J. and Pont, H.B. Educational research in Britain, 3, Univ. of London Press, pp. 32-56.

HOYLE, E. and BELL, R. (1972) Problems of curriculum I. Open University, Unit 13 to 15, Course E. 283. Milton Keynes.

HOYLE, E. and McCORMICK, R. (1976) Innovation the school and the teacher (II) Units 29-30 Open University Course E203. Open University Press. Milton Keynes.

HUGHES, J.A. (1976) Sociological analysis and methods of discovery. Nelson.

JOINT BOARD FOR PRE-VOCATIONAL EDUCATION (1984) The certificate of pre- vocational education. Joint Board for Pre-vocational Education.

KANE, J.E. (1974) Physical education in secondary schools. MacMillan.

KEMMIS, D. (1980) The imagination of the case and the invention of the case study. Centre for Applied Research in Educ. Univ. of East Anglia. Mimeographed report.

LAWLER, M.R. (1971) Strategies for planned curricular innovation. Teachers College Press.

LAWTON, D. et.al. (1976) The child, the school and society. E.203. Open University Units 5 to 8. Open University Press. Milton Keynes.

LIPPIT, R., WATSON, J. and WESTLEY, B. (1958) Planned change. Harcourt Brace.

LOCKWOOD, A.M. (1978) Movement education: an innovation in the physical education curriculum. Physical Education Rev. Vol.1, No.2, pp. 129-149.

MacDONALD, B. and WALKER, R. (1974) Safari: innovation evaluation, research and problem of control. C.A.R.E. Norwich

MacDONALD, B. and WALKER, R. (1976) Changing the curriculum. Open Books.

McCALL, G.J. and SIMMONS, J.L. (1969) Issues in participant observation. Addison-wesley. Reading, Mass.

McKINNEY, J. (1969) 'Typification, typologies and theory', Social Forces, Vol.48, pp.1-11.

MacLURE, J.S. (1967) Curriculum innovation in practice. HMSO.

MacLURE, J.S. (1972) Styles of curriculum development. OECD. Paris.

McLACHLAN, H. (1980) The ethics of non-overt research. Network, No.18. pp.7.

MANIS, J.G. and MELTZER, B.N. (1972) Symbolic interaction. Allyn and Bacon.

MATHEWS, J.C. (1985) Examinations: a commentary. George Allen and Unwin.

MAYDEW, B. (1975) In defence of the examination. Brit. J. Physical Education. Vol.6, No.2.

METCALF, J. (1978) Examinations in P.E.: The current situation. In: Conference report of B.C.P.E. Assessment of physical education in schools and colleges.

MILES, M.B. (1964) Innovation in education. Columbia University Press.

MILES, M.B. (1965) Planned change and organisational health: figure and ground. In: Carlson, R.O. (ed.) Change process in the public schools. Centre for the Advanced Study of Educational administration. Univ. Oregon.

MULKAY, M.J. (1972) The social process of innovation. MacMillan.

MUNN COMMITTEE REPORT (1977) The structure of the curriculum in the third and fourth years of the Scottish secondary school. HMSO.

MUNROW, A.D. (1972) Physical education, a discussion of principles. Bell & Sons.

NICHOLLS, A. (1979) The planning and implementation of an educational innovation: a case study. unpublished Ph.D. thesis, The Queen's University of Belfast.

NICHOLLS, A.and NICHOLLS, H. (1983) Managing educational innovation. George Allen and Unwin.

NISBET, J. (1973) The Schools Council, United Kingdom. In: C.E.R.I. Case studies of educational innovation. O.E.C.D., Paris.

NISBET, J. (1975) Bandwagon or hearse. In: Harris, A., Lawn, M. and Prescott, W. Curriculum innovation. Croom Helm.

NUTTALL, D.L. et.al. (1974) Comparability of standards between subjects. Exam. Bulletin 29, Evans Methuen.

NUTTALL, D.L. and ARMITAGE, P. (1983) Open University/ Technician Research Council. Moderating instrument research project. Open University Mimographed Report.

OLIVER, J.N. (1969) Memorandum on competitive examinations. P.E. Leaflet, June.

ORR, L. and NUTTALL, D.L. (1983) Determining standards in the proposed single system of examining at 16+. Comparability in examinations Occasional Paper 2. Schools Council.

PALMER, R. (1978) Physical education in schools: current issues and solutions. Phys. Education Rev. Vol.1, No.2, pp.101-110.

PARLETT, M. and HAMILTON, D. (1972) Evaluation as illumination: A new approach to the study of innovatory programs. Occasional paper A. Edinburgh: Centre for Research in Educational Sciences.

PHILIPS, D.K. (1973) Abandoning method. Jossey Bass.

PLAYFORD, D.W. (1981) Some of the problems encountered in C.S.E. examinations in physical education. Bul. of Physical Education. Vol.17, No.1, pp.32-7.

POPPER, K.R. (1968) The logic of scientific discovery. Hutchinson.

POPPER, K.R. (1972) Objective knowledge: An evolutionary approach. Oxford University Press.

PRESCOTT, W. and BOLAM, R. (1976) Supporting curriculum development. Open University E203 Units 24-26, Open University Press. Milton Keynes.

REYNOLDS, D. and SULLIVAN, M. (1980) Towards a new sociology of education. In: Barton, L. and Meighan, R. School, ideology and the curriculum. Falmer Press. pp.169-191.

ROGERS, E.M. and SHOEMAKER, E.F. (1971) Communication of innovations. Free Press, Glencoe.

RUDDOCK, J. and KELLY, P. (1976) The dissemination of curriculum development. N.F.E.R.

SADLER, D.R. (1981) Basing evaluation and policy analysis on multiple case studies: some consierations of utility, sampling, and assimilation. Mimeographed report Dept. of Educ. Univ. of Queensland.

SCHOOLS COUNCIL (1971) Physical education 8-13, Working paper 37. Evans/ Methuen.

SCHOOLS COUNCIL (1977) Examinations in physical education. Report of working party of the Schools Council P.E. Committee.

SCHOOLS COUNCIL (1979) Standards in public examinations: problems and possibilities. Comparability in examinations. Occasional Paper 1. Schools Council.

SCHOOLS COUNCIL (1982) Examinations in physical education. Occasional Bulletin of Schools Council.

SCHON, D.A. (1971) Beyond the stable state. Temple Smith.

SCHUTZ, A. (1971) Collected papers. The problem of social reality. Martinns Nijhoff: The Hague.

SECONDARY SCHOOL EXAMINATIONS COUNCIL (1963) The certification of secondary education: Some suggestions for teachers and examiners. Examinations bulletin No.1. HMSO.

SHIPMAN, M.D. et.al. (1974) Inside a curriculum project. Methuen.

SILVERMAN, D. (1985) Qualitative methodology and sociology. Gower, Aldershot.

SKEPPER, D. (1974) Physical education not examinations. Brit. J. Physical Education. Vol.5, No.3.

SKILBECK, M. (1976) In: Prescott, W. and Bolam, R. Supporting curriculum development. Open Univ. E.203 24-26. Milton Keynes.

SMITH, C.H. (1976) Mode III examinations in the CSE and GCE. Schools Council Exam Bulletin 34. Evans Methuen.

SMITH, L.M. (1971) A perspective on a theory of urban teaching. In: Westbury, I. and Bellack, A.A. Research into classroom processes. Teachers College Press.

SMITH, L.M. and GEOFFREY, W. (1968) Complexities of an urban classroom. Holt, Rinehart, Winston.

SMITH, L., and KEITH, P. (1971) Anatomy of educational innovation: An organisational analysis of an elementary school. Wiley.

SOCKETT, H. and HARRIS, A. (1976) Rationality and artistry. Units 16-18 Open University Course E203 Curriculum design and development. Open University Press. Milton Keynes.

STENHOUSE, L. (1975) An introduction to curriculum research and development. Heinemann.

STENHOUSE, L. (1978) Case study and case records: Towards a contemporary history of education. Brit. Educ. Res. J. Vol.4, No.2, pp. 21-39.

STENHOUSE, L. (1979) Curriculum research and the art of the teacher (Mimeographed article) Centre for Applied Research in Education, University of East Anglia.

STENHOUSE, L. (1980) The study of samples and the study of cases. Brit. Educ. Res. J. Vol.6, No.1, pp. 1-6.

STAKE, R.E. (1978) The case study method in social inquiry. Educational Researcher. Feb.1978, pp.5-8.

STAKE, R.E. and DENNY, T. (1969) Needed concepts and techniques for utilizing more fully the potential of evaluation. In: Tyler, R.W. (ed.) Educational evaluation: new roles and means. 68th Year Book of National Society for the Study of Education. Univ. Chicago Press.

STOKEHILL, A. (1966) Physical education as an examination subject in the C.S.E. Bul. Physical Education. Vol.6. No.8.

STRAUSS, A. et.al. (1964) Psychiatric ideologies and institutions. Free Press Glencoe.

SWINGEWOOD, A. (1975) Marx and modern social theory. MacMillan.

TATTERSALL, L. (1983) Differentiated examinations: a strategy for assessment at 16+? Schools Council Exam. Bulletin 42. Evans Methuen.

TAWNEY, D. (1976) Curriculum evaluation to-day: Trends and implications. MacMillan.

TAYLOR, C. (1979) Interpretation and the science of man. In: Rabinow, P and Sullivan, W.M. (eds.) Interpretive social science a reader. Univ. California Press. San Francisco.

TAYLOR, P.H. (1970) How teachers planned their courses. N.F.E.R.

TAYLOR, P.H. and WALTON, J. (1973) The curriculum: research, innovation and change. Ward Lock.

TILLEY, N. (1980) Popper, positivism and ethnomethodology. Brit. J. Sociol. Vol.31, No.1, pp.28-45.

TORRANCE, H. (1982) Mode III examining: six case studies. Longman.

VOGEL, P. et.al. (1970) Battle Creek curriculum development project. AAHPER conference paper to Midwest Convention, Chicago, Illinois.

WADDELL COMMITTEE, (1978) School examinations Part I. H.M.S.O.

WALKER, R. (1971) The social setting of the classroom. Unpublished M.Phil. thesis. Univ. London, Chelsea College of Science and Technology.

WALKER, R. et.al. (1976) Innovation the school and the teacher (I) Units 27-28 Open University course E203 Open Univ. Press. Milton Keynes

WALKER, R. and MacDONALD, B. (1976) Innovation at the school level. In: Walker, R. et.al. Innovation, the school and the teacher. Open University. Milton Keynes.

WALLIS, S. (1978) Studies in examinations. In: Glaister, I.K. (ed.) Assessment of physical education in schools and colleges. Report of the inaugural conference of the British Council of Physical Education. pp.30-31.

WARD, E. and HARDMAN, K. (1978) The influence of values on the role perception of men teachers of physical education. Phys. Education Rev. Vol.17, No.1.

WAX, R.H. (1952) Reciprocity in Field Work. Human organization, Vol.11. No.3, pp.34-41.

WAX, R.H. (1971) Doing fieldwork: warnings and advice. Univ. Chicago Press. Chicago.

WHEELER, G.E. (1973) Educational need and organization. In: Taylor P.H. and Walton, J. (ed.) The curriculum: research, innovation and change. Ward Lock.

WHITEHEAD, D.J. (1980) The dissemination of educational innovation in Britain. Hodder & Stoughton.

WHITESIDE, T. (1978) The sociology of educational innovation. Methuen.

WHITTY, G. (1976) Teachers and examiners. In: Whitty, G. and Young, M. (ed.) Explorations in the politics of school knowledge. Nafferton. Driffield.

WHITTY, G. (1978) The politics of school knowledge. Mimeographed copy of paper presented at Sociology of Education conference, Westhill College, Birmingham.

WHITTY, G. and YOUNG, M. (1977) Explorations in the politics of school knowledge. Nafferton. Driffield.

WILLOWER, D.J. (1980) Contemporary issues in theory in educational administration. Educ. Admin. Quarterly. Vol.16, No.3.

WILMOTT, A.S. and NUTTALL, D.L. (1975) The reliability of examinations at 16+. Macmillan.

WILSON, S. (1977) The use of ethnographic techniques in educational research. Rev. of Educ. Res. Vol.47, No.1, pp.245-265.

WILSON, T.P. (1970) Conceptions of interaction and forms of sociological explanation. Amer. Sociol. Rev. Vol.35, No.4, pp.698-710.

WOOD, R. (1976) Halo effects in teacher assessments. Research Rev. Vol. VII. No.36, pp. 1120-6.

WOODS, P. (1981) Strategies, commitment and identity: Making and breaking the teacher role. In: Barton, L. and Walker, S. Schools Teachers and Teaching. Falmer Press. Ringmer.

WOOLAM, S.H. (1978) The case against examinations in physical education. Brit. J. of Physical Education. Vol.9, No.6.

YOUNG, M.F.D. (ed) (1971) Knowledge and control. Collier MacMillan.

YOUNG, M.F.D. (1975) Curriculum change: limits and possibilities. In: Univ. London Institute of Education. Studies in education 2. The curriculum. Univ. London.

YOUNG, M., and WHITTY, G. (1977) Society, state and schooling. Falmer Press. Ringmer.

YELLING, C. (1978) C.S.E. physical education. In: Glaister, I.K. (ed.) Assessments of physical education in schools and colleges. Report of the inaugural conference of the British Council of Physical Education pp.32-33.

ZETTERBERG, H.L. (1965) On theory and verification in sociology. Bedminster Press. Totona, New Jersey.

APPENDIX A

Examples of working documents used in data collection and analysis procedures

Papers included:

1. Stage 2 - field notes;

2. Stage 3 and 4 - expanded field notes with issues, behaviours and climate identified;

3. Stage 5 - identifying relationships and categorizing issues, behaviours and climates;

4. Stage 6 - writing up notes and interpreting and refining concepts, constructs and categories;

5. Stage 7 - raising questions on refined concepts, constructs and categories;

6. Stage 8 - stating propositions by establishing hypotheses on questions;

7. Stage 9 - developing models of relationships;

8. Stage 10 - stating mini-theories;

①

...ch feel Collegiate
Rothmay
& Stegs in moderation activity

Put names to bodies

Quick ~~note~~ notes on outstanding features of each individual to contribute to picture

With groups of 9 possible to convey picture of all of them.

Keep returning to add additional information on different aspects of work

Tell teacher clearly what you want to see.

②

Basic ~~[illegible]~~ – crudely
agility
polish
Demonstrating
Guy. School team, Better Sogamo
5' 3" HJ

④ Joanne } adventurous
Judith } aggression
Carolyn } gentle control go on trampoline
team
Sommersault
Puts it together

Carolyn – Sommersault

Brian – crude effectiveness.

Paul – control but | trampoline precarious

Guy –

Sharon – adventurous abseil
5.3. H.J

③

Low level clumsy	crudely	smoothly	polish style
basic – Any crude			
demonstrating skillful			

	Team	Ath.	
1 Sharon accurate +	fluent,	5' 3	
1 Carolyn	X		gentle control puts it together
1 Judith	X		Adventurous aggressive
Paul			
1 Guy	X	5' 3	
1 Joanne fluent accurate	X		
Brian			crude efficiency
1 Jacqueline fluent accurate	X		

Moderation Meeting

20th May 1974 10 o'clock 12.30 Blackpool Collegiate

Jack Quarmby

Steps in moderation activity:

1. Association has to be made between names on mark sheet and the bodies moving about in the gym or on the field.
2. An aid to this is to make short comments on mark sheet of outstanding recognition marks e.g. green socks, small and square.
3. With groups of under nine it is possible to carry in the mind a clear picture of all of them. Above that selection is necessary
4. A list on a separate sheet of paper can then be built up of the individuals on which moderation is to be concentrated. Space is organised to allow additional information to be added on different aspects of the work
5. It is necessary to tell teachers clearly what you want to see as they tend to be searching for help.

selection process. exclusion in situation

The danger with this system is the teacher anxious to know what view is being built up their candidates put a lot of effort into looking over the moderators shoulders. There is a danger they will misinterpret the 'labels' which are used to recall significant features of the candidates

interpreting selective memory

Problem arises in schools where responsibility for aspects of work is shared out. Usually the head of department

Moderation process.

Moderators criteria + ones for practical theory work
(35) (33) (30) (29) (23) (21) (15) (16.) (17)

Limitations (17) (22)

Psych (18)

Grade (5) 5 (20)

Structuring the situation (20)

Identifying the moderators (21)

Psych/Grade difference (21)

Non-standardized exams (35)

Recognition how research theories has been influenced by moderators vis. ie high number of responses to moderating criteria recorded.

Stage 6 - Writing up notes.

Nature of P.E. Examination Knowledge; establishing parameters and criteria.

a) Main concern of the teachers,

b) Who is defining the nature of P.E. examination knowledge ?

c) Tendency to resort to college of educations' definitions - translation of college experience.

d) Balance of theory and practical

e) Examinable practical ability

f) Making criteria of performance explicit

g) Assessing quality of projects

h) Head teachers' intervention

To some extent unexpectedly, by far the greatest number of recorded statements related to questions of what to give marks for and how to set up a system for awarding marks. There could be two explanations for this. Firstly, that the teachers talked to are confident in their ability to teach but not to examine, or secondly, that the role of moderator focused the attention of the researcher on examination issues. It will be interesting to observe if this domination persists into the years when the examination is stabalized and an evaluation expertise developed. It will also be interesting to note whether there is the same preponderance of 'criteria establishing' and 'examination procedure' questio in evidence when the formal interviews with teachers are conducted.

There is no clear acceptable definition of what is good physical education knowledge which can be examined at the C.S.E. level; and both teachers and Board officers are in negotiation attempting to establish the core and the bounderies. The early proposals the teachers were in the position of defining their own work, but over the years the Board and Moderators are beginning to limit what the teacher is allowed to do although in theory the Mode 3 is a teacher focused examination. (29a)

What knowledge can reasonably be taught, then examined is not defined formally anywhere and the tendency to begin with is to make it too hard and too theoretical and to teachers falling back on college of education definitions for students. This leads to early requests for change of content to make courses more appropriate for secondary school children (3).

What the balance of theory to practical should be has very wide interpretations with the Board progressively defining the weighting to the annoyance of some teachers (3). Teachers possibly, although this needs testing, over emphasize practical ability when it comes to awarding grades, but tended to be prepared to accept low weightings for practical work in the original proposals (27).

5. Stage 7. Raising questions on refined concepts, constructs and categories

1. Is researcher's interpretation by establishing headings unacceptable distortion of reality?

2. Has Ward, Strauss or Smith got the steps and descriptions right?

3. What is the virtue of providing an existential picture even if it is possible to get it?

4. Can climate be captured, issues identified and behaviours of participants be established?

5. Can occasional comment recorded out of context be considered sufficiently objective to be evidence?

6. What advantages are there in detached and distanced accounts, and one which gives more of the 'taste and flavour' of the phenomena?

7. How do we judge what is ethical or in good taste in data collection?

8. How can children be motivated to talk freely about their C.S.E. experience?

9. How is the fact that teachers will see the researcher as being part of the repressive examination bureaucracy likely to influence what they say and do?

10. Is this description of the process of analysis not simply stating the obvious?

11. Is there an accepted and recognised distinction between categories, concepts, constructs, typologies, hypothesese, models and theories?

12. What is the utility of distinguishing between teacher's definitions, researcher's observations and interpretations, and researcher's definitions?

13. Is there not an element of re-arranging your own and other people's entrails in this progressive/accummulative/repetitive analysis?

14. What purpose does including teachers' statements serve?

15. What purpose will be served by building up an existential picture in a research report?

16. Can a distinction really be made between 'inert' and 'dynamic' analytical processes?

17. Which gets nearer to the truth; a cool detached account or one which attempts to capture the colour and the flavour?

18. Is it important to emphasise the sceptical questions to ensure that an intellectually desirable critical stance is maintained, or is this the purpose of the next analytical stage which is drawing up hypotheses against the questions?

19. Is metaphorical thinking a distinctive category of thinking, or can it be seen as another firm of analytical thinking? if it is a

cont.....

Stage 8. Stating propositions by establishing hypotheses on questions

1.0 Broad General Design

1.1 Research Perspective

1.11 Man is fundamentally enquiring and scientific and it is possible, by refining and making explicit the conceptual processes which are the basis of this scientific disposition, to improve perceptual and analytical performance in a way which leads to satisfactory theory building and verification.

1.12 A good research report will combine the virtues of a detached, cool, abstract, objective account of issues and behaviours with feeling for the meaning, flavour and climate of the study subject.

1.2 Research Method

1.21 'Accumulative analysis' or 'analytical description' is a method which results in discovery not an exercise in stating the obvious.

2.0 Collection of Data

2.1 Quality of Data

2.11 As long as care is taken with interpretation, then interview data collected by the recording of occasional comment by a researcher recognized as being professionally threatening to the interviewee can be valid and useful.

2.12 Subjects 'explicit' definitions are no more and no less meaningful and permanent than researchers 'implicit' definitions.

2.13 The data gathered concerning school work by engaging adolescents in an informal interview is of limited use.

3.0 Analysis of data

3.1 Outcome of Analysis

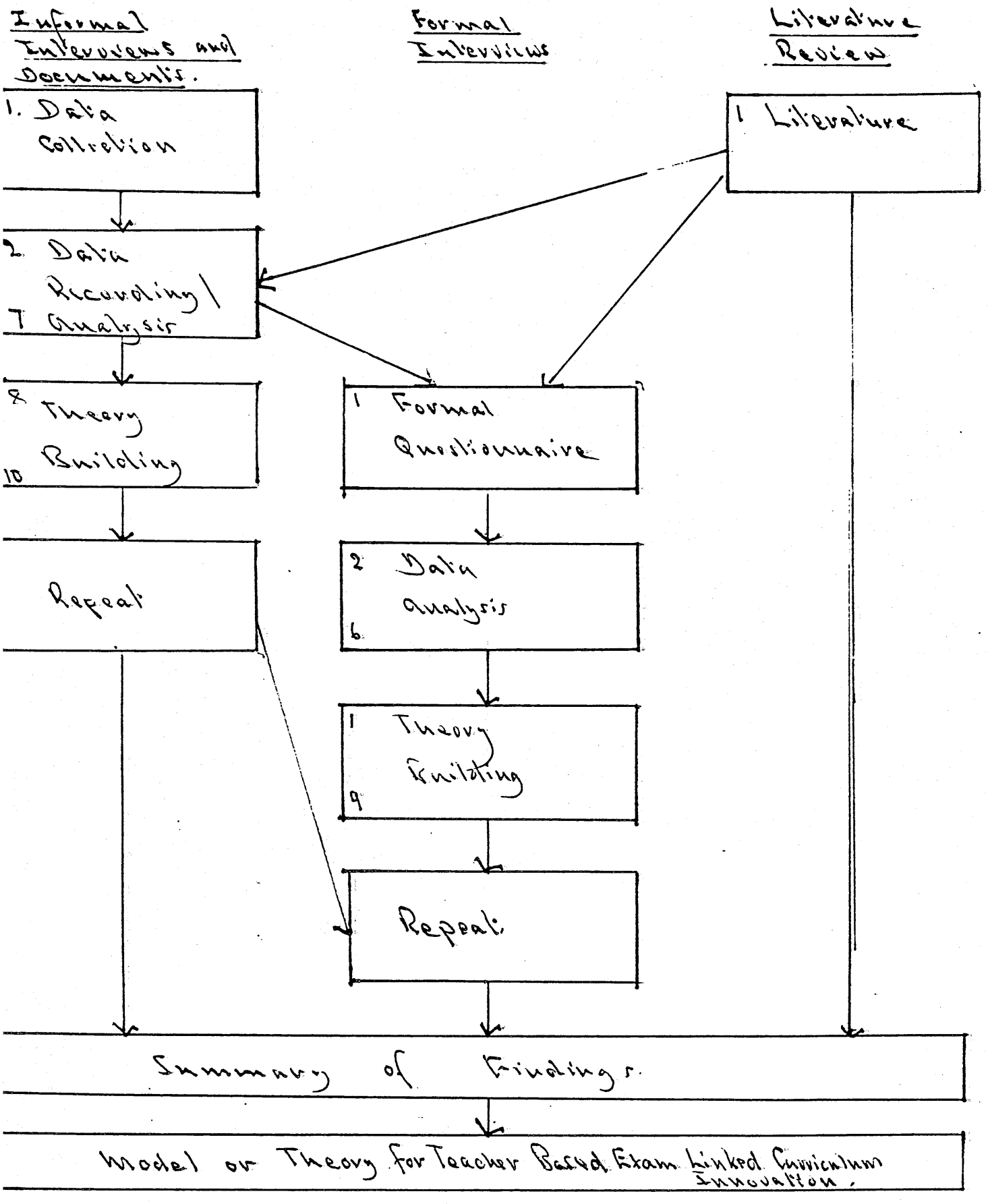
3.11 Teachers' explicit account definitions and researcher's interpretation and definition of the phenomena are a sufficient and useful basis for analysis to enable new insights to be obtained into the implementation of curriculum innovation.

3.12 Researcher's semi-structured observation and intellectual analysis is a more appropriate research technique than statistical analysis for identifying the factors and processes important in the implementation of the innovation of a C.S.E. physical education course in schools.

cont.....

Stage 9 Develop Models of Relationships

Diagram 1. Inter-relationship of Data Collection and Analytical Methods.



'Accumulative analysis' is an effective form of curriculum evaluation research when:

a) a humanistic/naturalistic perspective is adopted,

b) virtues of detachment and involvement, analysis and synthesis are combined,

c) evidence is collected from a variety of sources in a number of forms.

d) conceptual analysis enables distinctions to be made which are critical and dynamic,

e) theoretical conclusions can be arrived at in relation to curriculum processes.

f) the research report, built on a structure which has grown organically out of the analytical activities, uses participants accounts and metaphorical thinking to establish a picture of what the situation really is.

Development of Formal Interview Schedule

Papers included:

1. Interview Schedules.
   - 1.1 Draft - First Formal Interview Schedule from General Theory.(Extract)
   - 1.2 Social Construction of Reality.(Extract)
   - 1.3 Analysis of Informal Data.
2. Hypotheses on 3 Schedules.
3. Diagram of Relationships: Questionnaire Hypotheses and Outcomes of Research.
4. Theory of Influence of Innovators Consciousness on implementation of Grassroots Innovation.
5. Theory of Interviewing and Question Framing.
6. Formal interview Schedule.

(Extract)

Interview Schedule: General Theory.

An interview schedule was developed by relating issues identified in the literature to the research design model built of the following components: individual teacher's definitions, teacher's actions, and context factors of school groups, school organisation and outer community, recognizing that the questions can only guarantee teachers' definitions. The questions under the component headings are :

1. Teachers' Definitions of their Actions

a) Descriptions of actual response, operational indicators, performance :

i) What were the steps leading up to the change ?

ii) What changes have taken place in your work since the implementation of a C.S.E. course ?

2. Teachers' Definition of their Perceptions and Interpretations

a) Teacher's programme ideology, hidden curriculum (Sharp and Green, Yates) :

i) What were the reasons for selecting the content included in the proposal ?

ii) Is there anything distinctive of you in the content, teaching methods or style you adopt ?

b) Teacher's motivations for innovation : belief in change, status of subject, means of increasing resources, developing theoretical understanding, role set pressure :

i) Why was the change introduced ?

c) Barriers to change : attitudes, resources available, organisational structures. (Hoyle and Bell) :

i) What made difficulties for the introduction of the change ?

ii) What difficulties have constrained progress since the implementation ?

(Continued)

(Extract)

Interview Schedule : Social Construction of Reality

1. New knowledge and new conduct.

   Have you learnt anything new in implementing the course which has persuaded you to change your approach to your teaching life generally ?

2. Change in Sociality interaction.

   Have you found it necessary, and with what result, to relate to other individuals, groups and activities, with which previously it was unnecessary to become involved ?

3. Change in social being and change in consciousness.

   Have the different teaching activities which have developed with the implementation of the examination course necessitated there being a change in what physical education and teaching means to you and what you believe in ?

4. Dialectic between subjective and objective reality.

   Has new awareness and new teaching expectations brought about any clashes or conflicts with previous teaching approaches or organisation ?
   Has new awareness and new teaching expectations brought about any clashes or conflicts over availability of opportunities and resources ?

5. Typifications.

   How would you describe the most important changes which have taken place since deciding to implement a C.S.E. scheme ?
   What the new situation demands might be difficult to get across to other people. How do you go about explaining ?

6. Habitualization.

   What new skills and knowledge which took time and energy developing have now become second nature to you ?

Interview Schedule : Analysis of Informal Interview Data

1. What Physical Education Knowledge is to be examined and how is it to be examined?

1.1 Which activity have you found to be more demanding : Finding suitable content to fill the course satisfactorily, or organising the assessments and examinations?

1.2 Are you finding that the examination regulations or expectations are limiting what you would like to put into the syllabus?

1.3 What changes have you found it necessary to make since starting the course?

1.4 How would you argue for the balance of practical and theory work which you want?

1.5 What should high grades and what should low grades be given for in the practical component of the examination?

1.6 What should high grades and what should low grades be given for projects?

1.7 Has the headteacher indicated which qualities a high grade in C.S.E in P.E. ought to be given for, and are they similar to your ideas?

2. How are grades awarded and examination conducted?

2.1 How do you decide which grades students should have?

2.2 Who helped you decide where to draw grade level bounderies?

2.3 How has previous examining experience helped you to decide where to draw grade level boundaries?

2.4 What do you think the moderator's job ought to be?

2.5 What do you think it is necessary to do with moderator's to get them to agree what you consider to be fair grades?

3. How does the school and particular children influence the course?

3.1 What level of performance do you expect of the children in this school?

3.2 Do children who like physical education in this school like to be examined in the subject?

3.3 Does the area in which the school is located in any way determine the content or implementation of the course?

4. How was the course developed?

Continued.....

4.1 What do you hope to gain for the school, children and yourself by doing a C.S.E. course in Physical Education?

4.2 How did you go about developing a scheme once you decided it was worth trying?

4.3 Did you get most help from people inside or outside of school?

4.4 Who do you think ought to be responsible for helping teachers develop C.S.E. courses?

4.5 Is information difficult to find or easy to locate and why?

5. What have been the problems of implementing the scheme?

5.1 What new teaching or examining skills has a P.E. teacher to develop to do the job properly?

5.2 Is doing academic teaching and examination work more or less enjoyable than teaching practical physical activities?

5.3 What was the effect of having to produce a written course and examination proposal before teaching the course?

5.4 Might teachers of other subjects in the school have been a help to you in implementing the scheme in the early years of the course?

5.5 Would it not be easier to co-operate with other schools and develop a group scheme?

6. Is the course to be continued?

6.1 What factors have or might lead to the course being discontinued?

7. What innovations have occurred?

7.1 What changes have occurred in your teaching subject, style and organisation since beginning the course?

7.2 What do you consider to be new about the course you are teaching?

8. What distinctive definitions and constructs are being developed?

8.1. What phrases do you use to describe good, poor and mediocre performance in practical and theoretical areas of the work?

8.2. Have you found yourself using phrases to describe the course or the children, which you do not use in relation to the general physical education programme?

9. Has teacher's consciousness changed?

Continued .....

Continued.

9.1. In what ways has your thinking about teaching P.E. changed since beginning teaching the examination course?

9.2 Has your view of what children can do changed in anyway?

9.3 What new knowledge or competence have you had to develop as a teacher?

10. What new skills and knowledge have you had to develop?

10.1 What new knowledge and skills have you had to develop since you began to implement the course?

10.2 Has the requirement to be explicit and accurate over matters of evaluation made it necessary to familiarize yourself with new techniques and knowledge in this area?

10.3 Has doing the course made you re-assess standards in practical or theoretical work?

10.4 What do you think ought to be done about informing teachers, intending to develop a C.S.E. course, what new skills and knowledge they ought to become familiar with, and also how to go about it?

11. What issues become apparent when staff changes occur?

11.1 Are there more problems in physical education than other subjects when a member of staff responsible for the examination course leaves?

11.2 What problems arise when a newly appointed teacher attempts to take over a scheme developed by someone else?

11.3 Are all physical education teachers able to take over a C.S.E. Examination scheme?

11.4 Is continuity of a scheme more assured when implemented in a large comprehensive with a big physical education department than a smaller school?

Hypothesese Raised in Integrating Three Interview Schedules

1.. Definition of Physical Education Knowledge.

1.1 Each teacher decides what knowledge and skills, in what balance, should be included in the scheme.

1.2 Teachers in their own distintive way decide on course content according to their beliefs of what physically educated children need.

1.3 The fact that the children are to be examined does not influence the programme content or teaching organisation.

1.4 Some aspects of the course have no practical purpose yet have to be maintained on grounds of orthodoxy.

1.5 There is a clear common understanding of what abilities are rewarded at different levels for the different activities in the course.

2. Examination Techniques and Processes.

2.1 Preparing examinations, assessing and drawing grade level boundaries are tasks which can be done without help or previous experience.

2.2 The moderator's job is simply to adjust particular school's grades to be comparable with a general standard, and there is no possibility for teacher intervention in the process.

3. Context Factors.

3.1 The background of the children in the school influences the level of physical education performance in the examination.

3.2 Children like to be examined in physical education, which makes them interested in the course and leads to them applying themselves differently to physical education than non-examination children.

3.3 The area in which the school is situated has an influence on the course.

3.4 Support for schemes is necessary from influential groups outside the schools.

Course Development.

4.1 Courses are introduced to: satisfy a teacher's interest in change, enhance the status of the subject, as a means of increasing resources for P.E., meet the teachers academic aspirations, because of the Pressure of influential individuals, motivate the children unlikely to be successful in other examinations, meet the needs of academic children.

Continued .....

4.2 There are simple, clear steps to be taken in developing a scheme which are: acquire the Board Regulations, consult the head, write out a scheme then submit and implement it.

4.3 Only teachers with particular training or teaching experience are to be found developing schemes.

4.4 It is necessary for the teacher to have support, encouragement and sensible criticism when developing a scheme.

5. Course Implementation.

5.1 There is considerable gain for the schools, children and teachers in implementing a C.S.E. course in Physical Education.

5.2 Progress in implementation is constrained neither by negative attitudes, availability of resources, nor organisational structures.

5.3 The task of developing and implementing a scheme is less demanding and more fulfilling if done in collaboration with a group of schools.

5.4 There are specific groups of people who have an important influence on the success or failure of the courses.

6. Course Decline.

6.1 The only criterian for judging the success of a scheme is that pupils continue to join the course.

6.2 Once a course has started nothing is going to cause it to be discontinued.

7. Innovation and Change

7.1 Teaching the examination course is the cause of new approaches to the subject content, teaching style and organisation being introduced.

7.2 People in the school other than the P.E. teacher have to accept changes brought about by the course which in some cases takes time.

8. New definitions, constructs and typifications.

8.1 Distinctive phrases emerged to identify children's abilities and performance, also course activities and changes.

9. New awareness.

9.1 As a result of implementing a C.S.E. course the teacher's awareness of what physical education and teaching is changes.

Continued .....

9.2 Being required to make explicit statements about content, teaching and evaluation develops new awareness in the teacher.

10.0 New Skills and Knowledge.

10.1 The need to develop new skills to implement courses is considerable, but this applies to examining more than teaching.

10.2 Expect ations change between course design and implementation, and it becomes necessary to re-assess work and standards in both practical and theoretical work.

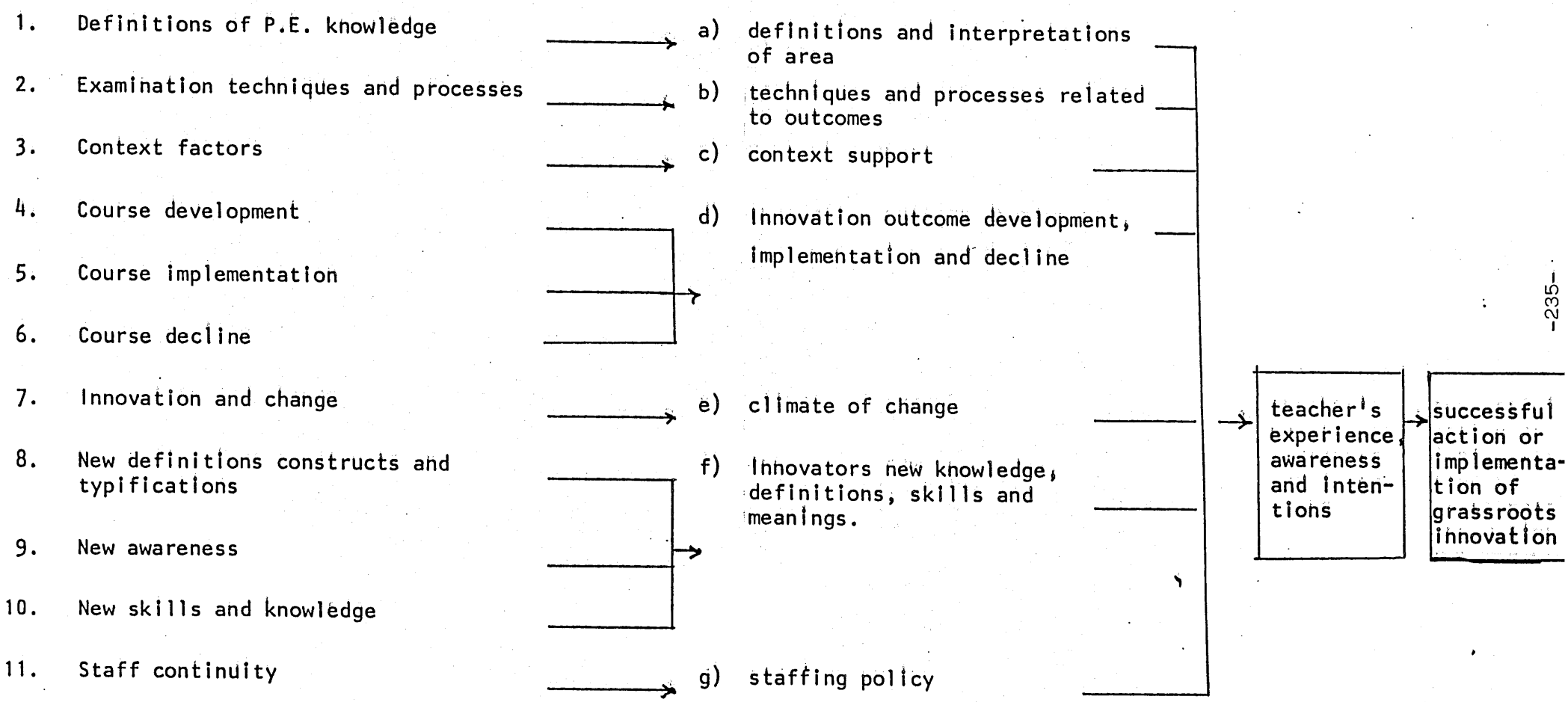
10.3 The teacher has sufficient expertise and information to enable a course to be developed and implemented without assistance from anyone.

11.0 Staff Continuity.

11.1 More problems arise when staff changes occur in a P.E. department implementing a C.S.E. scheme than any other subject department.

11.2 It is possible for any P.E. teacher to take over a scheme once it has been started.

Relationships Between Hypotheses Raised in Integrating Three Interview Schedules and Outcome of Research



Theory of Influence of Innovator's Consciousness on Implementation of Grassroots Innovation

An innovator's experience, awareness and intentions, which are his consciousness, influence his action. Factors important in influencing the adjustment of the consciousness of innovators which make the implementation of grassroots innovations successful are:-

a) general definitions of the area

b) techniques and processes related to the outcomes

c) context support

d) innovation outcome development, implementation and decline

e) climate of change

f) innovator's new knowledge, definitions, skills and meanings

g) staffing policy.

It needs to be shown from formal interview data that all of these factors have influenced the innovators consciousness and the successful implementation of the innovation. Questions included in the formal interview schedule need to probe each of these areas.

Theory of Interviewing and Question Framing

1. What is the best way of asking questions?

2. The most effective way to conduct an interview and frame questions is to:

   2.1 Focus directly on the hypothesese to be tested.

   2.2 Allow the interviewer to conduct the interview in a relaxed fashion with a feeling of being in control.

   2.3 Allow the interview to last long enough to get over inhibitions of early uncertainties, yet not last too long and become boring and objectionable.

   2.4 Create a mood of co-operation rather than conflict.

   2.5 Make the questions as short and simple as possible.

   2.6 Don't allow the formal question to inhibit the use of supplementary and additional questions particularly the 'why' follow-up to almost every question.

   2.7 Using a question form which assumes a process or phenomenon to exist does not necessarily feed responses to the interviewee if the open question form also demands examples not just 'yes' or 'no' responses, that is, "in what ways ...." not simply, "does it" exist.

3. The interview is a human relations, artistic activity and is not reducible to mechanical, pre-determined procedures, but some guiding principles rather than general principles of approach and question framing contribute to increased effectiveness. The success of interviewing is mainly determined by the level of perception, climate control and positive non-interference.

Formal Interview Schedule

A. Classification Questions.

a) When was the first examination of the course?

b) Where you the teacher who introduced the course?

c) If you didn't start it when did you take charge?

d) How many pupils were on the first course?

e) How many children are on the current courses?

f) Is it a single sex or mixed course?

g) How much time is allowed each week for the two years?

h) Is this C.S.E. time in addition to the normal school P.E. Programme?

i) How many staff are involved in the teaching?

j) Where did you do your physical education training?

k) How many years have you been teaching?

l) How long have you been in this school?

1. General definitions and interpretations of physical education.

1.1 Who decides what is acceptable course content and therefore can be considered to be physical education? Is it yourself, a group of teachers on the Board?

1.2 Has the examination dictated the physical education syllabus in any way?

1.3 Does the examination reward accurately what you consider to be different levels of physical education achievement?

1.4 Is there anything in the course which is not really physical education and you would like to leave out?

2. Techniques and processes related to examinations in physical education.

2.1 What are the features of the course which have surprised you or provided an insight you did not previously possess?

2.2 What new skills and techniques have you had to learn to get the course going?

2.3 Do you find it easier to cope with the Examination Board and its officials now than when you first started?

2.4 How would you describe what the course means to you personally now? What do you get from doing it?

3. Context support.

3.1. How does the home and neighbourhood of the children influence the level of physical education performance of the children?

3.2 Can it be shown that the pupils opting for the examination course, apply themselves differently to physical education in school than non-examination pupils?

3.3 Does the area or neighbourhood in which the school is situated influence the course?

3.4 What influence have individuals or groups, outside the school and examinations board, had on the progress of the course?

4. Examinations in physical education.

4.1 Why did you introduce the course?

4.2 What were the precise steps you took from the germination of the idea to getting the course working?

4.3 Had you to develop the course in isolation or did you receive support, encouragement and sensible criticism?

4.4 Who gains most from the course, the school, the children or you the teacher and in what ways?

Continued .....

4.5 What made difficulties for the introduction of the change?

4.6 Would you have preferred to have been a member of a group scheme collaborating with a number of schools than have worked in isolation?

4.7 Has the success or failure of the course rested upon any particular individual or group of people other than yourself?

4.8 Is the only criterion for judging the success of the course that children continue to come forward to take part in it?

4.9 Once the course is running is anything likely to prevent it from continuing?

Climate of change.

5. What changes, necessitated by starting an examination course, have had to be accepted by other people in the school?

Physical education teachers' new knowledge, definitions, skills and meanings.

6.1 Have you found yourself using phrases to describe the course or the children, which you did not use before starting the examination course?

6.2 Has teaching the course made you re-think what physical education ought to be or what you ought to be doing as a teacher?

6.3 Has the writing down of syllabus proposals and examination marking schemes made you think differently about what you are teaching?

6.4 Have you found it necessary to become involved with different individuals, groups or activities in school since starting the examination course?

6.5 Since starting the course have you changed your mind about what ought to be in it because the children's abilities and interests have turned out differently than expected?

6.6 Is there anything distinctive of you in the content, teaching methods or style you adopt? Do you see any aspect of it as reflecting you?

Staffing policy.

7.1 Is it more difficult to cope with an examination course when staff changes occur in physical education, than in other subject departments?

7.2 When a scheme has been started can any specialist teacher of physical education take it over?

ADDITIONAL QUESTION

1. Some people believe that one of the problems with examinations with P.E. is that concern for examinations and marking begin to take over and the teacher loses interest in the responses of the children in general because of this concern for the examination.

2. Do you feel that your status as a teacher changed when you began to be a teacher of an examination subject?

3. Has anything led to you becoming less interested and excited by the course?

APPENDIX C

DEVELOPMENT OF THE SECOND, FORMAL INTERVIEW SCHEDULE

1. Evaluation of the First Formal Questionnaire

The first formal questionnaire was to some extent successful. It focused attention upon important issues, behaviours and climates, and in one case particularly provided a real feeling and insight into what being involved in genuine innovation means to the people involved. This was intended to be one of the central concerns of the enquiry and the results indicated the need to focus attention more specifically upon the question of what being involved in a curriculum innovation means to the teachers involved as this had not come through as clearly as it might. A number of hypotheses were stated concerning the meaning of curriculum innovation to the teachers involved which were suggested by some of the findings from the first questionnaire and which would generate questions for a second formal questionnaire. This new questionnaire was then used on a new group of teachers who had been involved in implementing a Mode 3 C.S.E. course in the very early days of its development in Physical Education. What might emerge from this interview is not only what it feels like to be involved in curriculum innovation but also what it is in the teacher which made them do it. Only in one or two of the first formal questionnaire interviews did the sense of excitement of being involved in a curriculum innovation come across. There was on the other hand a number of examples of the feeling of unconcern and dismay which had emerged over the years. A teacher describing how exhilerating building up the course became, consequently excessively time consuming and demanding, 'which probably contributed to the break-up of my marriage', is providing insights into her own pressures, but also more importantly for the purposes of this study, what it feels like to be involved in curriculum innovation.

2. Hypotheses for Second Formal Questionnaire

Some hypotheses focusing on aspects of innovation and its meaning to the teachers involved :-

a) The examination in physical education has been a success.

b) Developing the course was very hard work and only someone with exceptional commitment could have sustained the endeavour to have been successful implementing it.

c) Implementing the examination was professionally rewarding to the teachers introducing examination courses.

d) A variety of reasons motivated teachers to implement the course.

e) A feeling of excitement and sparking off a new light was felt by teachers implementing the course.

f) Teachers implementing the course are people who always want to feel the exhilaration of doing something new and challenging.

g) The feeling of excitement and exhilaration at implementing an examination course inevitably wanes.

h) Changes in school or Board expectations led to those implementing the courses losing their interest, identification and excitement.

i) As soon as there are any signs of the course not being able to respond to the changing needs of the children then teachers begin to lose their commitment and identification.

j) Concern for the requirements of the examination become important and demanding, and deflected attention away from the consideration of more important needs of the children.

k) Implementing the course provides intense gratification which comes from achieving higher standards in teaching and learning.

l) A consequence of implementing an examination course is the necessity of accepting constraints which lead to loss of excitement and interest.

3. Second Interview Schedule Questions

Questions derived from hypotheses :-

a) Did it give you pleasure that the C.S.E. examination in Physical Education has been successful or dismay because it was unsuccessful ?

b) What qualities of yours were demanded in order to make the course succeed ?

c) Do you think that implementing the course gave you a feeling of professional satisfaction.

d) What gratification would you say you got from developing and implementing the examination course ?

Cont.....

3. (cont.)

e) Some teachers have said that developing the course was like 'sparking off a new light'. Were you aware of this at all ?

f) Are you the kind of person that always wants to feel the exhilaration of doing something new and challenging ?

g) Have you found that your interest in this innovation, as with all similar activities, inevitably wanes ?

h) Did changes in yourself, the School or the Board lead you to feeling more excited or disillusioned with the course?

i) Is the course continuing to respond to the changing needs of the children and is this important in maintaining your commitment and identification with the course ?

j) Was concern for the requirements of the examination becoming more important and demanding and deflected attention away from consideration of more important needs of the children ?

k) Have you felt whilst implementing the course the gratification which comes from raising standards of performance either in the teaching or the learning of the children being taught.

l) A consequence of implementing an examination course is that constraints have to be accepted which are imposed by the Board or the school. Do you think that this is inevitable with an examination course ?

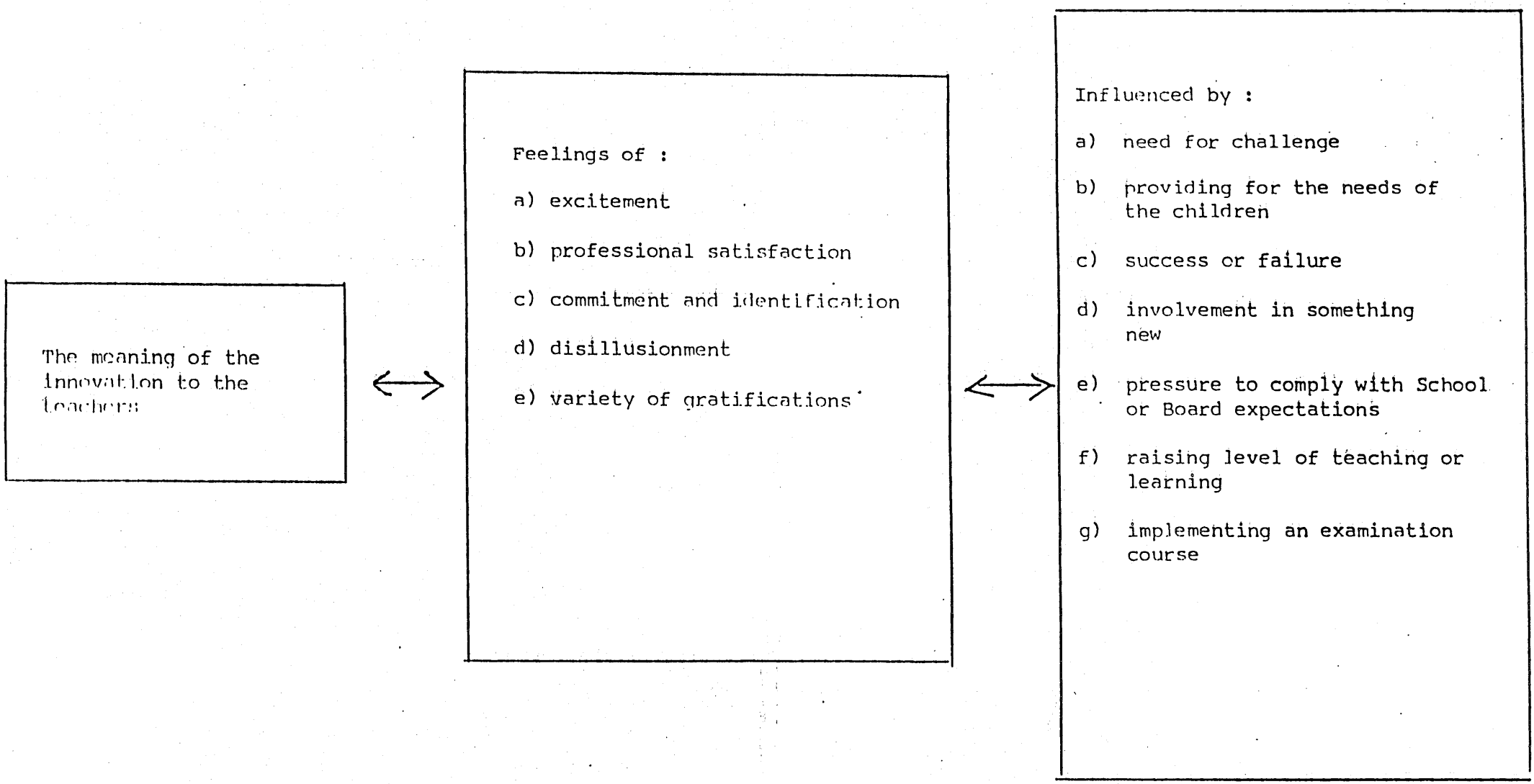
4. The meaning to the Teacher of the Innovation

(see diagram attached)

5. Developments in theory building

Although the original theory focused attention upon the consciousness of the innovator, the importance of meaning to the teacher engaged in curriculum innovation was not sufficiently probed by the first questionnaire. This feature of meaning of the innovation to the teacher involves the feelings of: excitement, professional satisfaction, commitment and identification, disillusionment and a variety of other gratifications. These feelings are influenced by: the need for challenge, providing for the needs of the children, success or failure, involvement in something new, pressure to comply with school or Examination Board expectations, raising the level of teaching or learning, and implementing an examination course. This second questionnaire unashamedly used questions concentrating on the feeling behaviour of the innovators.

4. The Meaning to the Teacher of Developing and Implementing the Curriculum Innovation



What is Physical Education is a question which can be pursued at two levels. In the first place it is being defined in an absolutist way in Universities and degree awarding institutions throughout the world to identify the elements of a distinctive discipline and body of knowledge. At the second relativist level it is being defined by what works and successful practice. The first level of analysis is related to the second, but not synonymous nor necessarily of primary importance.

At the absolute level what is being established is a continuum running from Dance, through Human Movement Studies, Sport Studies to Sports Science, which are Arts, Humanities, Social Science and Natural Science divisions. Physical Education is the professional preparation related to the preparation of teachers and draws from them all in varying proportions according to the needs of children in schools. There is no shortage of degree level knowledge in the four discipline areas related to the activities associated with children's physical activities in schools.

The task of defining what is physical education in schools and therefore examinable as a C.S.E. is a relativistic analysis. It begins with the question of what practical physical activities are seen as having a useful part to play in the education of the normal child in school. By successful practice these have been established as being Dance, Movement Education and Sports and Recreational Activities. These broad divisions then break up into the multitude of activities which are to be found in schools to-day: theatre dance, educational dance, educational gymnastics, olympic gymnastics, athletics, swimming, outdoor pursuits, partner games and team games. At fourth and fifth year level some would press the virtues of a broad, balanced programme, whilst others claim advantages in specialisation, and there are culturally and biologically determined sex differences, but no consensus has been arrived at as to what is the most appropriate selection. The selection is often determined by area tradition, facilities available, and staff resources and expertise. Whatever the selection of practical physical activities there is considerable amount of theoretical knowledge which can be associated with them which brings deeper insight into the activities themselves.

In practice with C.S.E. courses the theoretical knowledge has related in two ways to the physical activities. Firstly under the broad title of sports theory is knowledge, understanding and application of the rules, strategies and techniques of the sports themselves. Secondly, theory which is derived from anatomy and physiology, mechanics, health education, history of P.E., leisure and recreation studies, and environmental studies. The balance which is difficult to strike in this area is that between relevance and rigour. It is for example easier to do a rigorous course in anatomy and physiology than it is to teach one directly associated with recreational pursuits and sports as the structure of anatomy and physiology at this level is clearly established and many suitable text books available.

The simple logic is that whatever combination, of practical and theoretical activities outlined above, which are suitably cohesive and comprehensive, ought to come under the general title of Physical Education. The Board practice on the other hand has established four divisions which inevitably to a greater or lesser extent overlap. The first is Dance which lies in, I think, the Drama Faculty. In the Physical Education Faculty there are Outdoor Pursuits, Physical Recreation and Physical Education. The Outdoor Pursuits course specialises in camping, mountain and water sports and calls upon related environmental studies and first aid theory.

The Physical Recreation courses are those emphasising recreational physical activities and drawing on leisure and recreation studies rather than physiology. The Physical Education courses are more eclectic and cross physical activity boundaries which Dance, Outdoor Pursuits and Physical Recreation don't, and are dominated theoretically by physiology and first aid theory, or in the more progressive courses the physiology of exercise and sports injuries. The practice therefore has established a broad category of Physical Education courses and three specialist alternatives with distinctive practical and knowledge bases: Dance, Outdoor Pursuits and Physical Recreation. There is to me acceptable logic in the present distinctions and no reason to move away from these definitions emerging from practice.

If C.S.E. practice were to mirror the structure of the subject arising out of the absolutist analysis of Sport and Physical Education then a fourth specialist area might be developed. This would stem from the area of Sports Science and at C.S.E. level could be called Health and Fitness which would theoretically focus on health education and physiology of fitness, and physically concentrate on fitness training and activities. Logically this development is needed but the knowledge and climate is not right for this extension.

PHYSICAL EDUCATION AND OUTDOOR PURSUITS: DEFINITION AND CONTENT

What is Physical Education, or more specifically what is Physical Education in Schools, and therefore appropriate for examination can be answered in two ways. The first, which I personally prefer, is to identify what is established good practice in the schools and accept that as the subjects core. The second, which appears to be that favoured by the Board, is to decide on the most appropriate curriculum by deduction from what are the defining characteristics of the subject as an abstract concept. The two need not be too different, but it is possible to reject some worthwhile, established developments by applying the second approach too rigidly as the guiding principle.

If the Board moderators in Physical Education were to have to define their subject in terms of its essential characteristics it would be as follows:

1. To develop skill in and understanding of the performance of those human movement activities which are considered an appropriate part of a child's education.
2. A course developed to achieve this aim of improved performance would provide opportunities for gaining a better understanding of these human movement activities.
3. The better understanding would arise from improved physical skill in the activities themselves, greater skill and opportunity in reflecting upon and making judgements about the activities, and knowing more about the activities.
4. The activities which would be considered appropriate human movement activities in which to develop skill are: dance, educational gymnastics, olympic gymnastics, athletics, swimming, outdoor pursuits, partner games and team games.
5. In order to be able to make more perceptive judgements and know more about the activities, as well as practical involvement, it is necessary to know more about:

   a) the activities themselves

b) the body which engages in the activities

c) the environment and situation in which the activities take place.

The assumption here is that some degree of correlation will exist between the performance of the skills and knowledge and understanding of the skills.

6. The priorities which would be considered appropriate are first, the practical performance of the activities and secondly knowledge of the practical activities. Knowledge of the body engaging in the activities and the environment and situation in which the activities take place are equal third. Insisting upon 20% anatomy and physiology as knowledge of the body engaging in the activities, can only be justified on the grounds that an established examination tradition and school text book literature exists, which does not yet exist for the physiology of exercise , sports injuries, the psychology and mechanics of skill acquisition, and sport and leisure in the community. Good courses have been implemented and examined which have not included anatomy and physiology. If there is to be a Board requirement for including 20% anatomy and physiology for Physical Education courses then schools wishing to focus on understanding the environment and situation in which the activities take place, by drawing from theory based on sport and leisure in the community, should be allowed to do so under the title of Physical Recreation or Recreation studies. If this were to happen then it is assumed that similar allocations of time would be expected. This would be approximately 50% practical, 30% Sports Theory and 20% Anatomy and Physiology or Sport and Recreation.

7. Outdoor Pursuits requires special consideration. The nature and structure of the subject is similar. The three divisions of theory in addition to practical involvement still apply, but with a somewhat different emphasis. The human movement skills involved are more restricted, consequently should not demand such a heavy weighting as in Physical Education. On the other hand knowledge of the environment and situation in which the activities take place is more important. The syllabus to enable children

to develop skill in and understanding of the performance of those human movement skills which are the components of outdoor leisure pursuits might be practical knowledge of outdoor pursuits, knowledge of the environment and knowledge of first aid and human performance. Again the assumption is that skill performance and knowledge and understanding are to some degree correlated.

FORMAL INTERVIEW ANALYSIS

INTERVIEW OBSERVATIONS

1. Information on conduct of interview:

   a) Name of teacher .....

   b) Place of interview e.g. staff-room .....

   c) Duration of interview .....

   d) Effects of interuptions .....

   .....

   .....

   .....

   e) Other observations on conduct of interview .....

   .....

   .....

   .....

2. Observations on significant issues:

   a) Possessing immediate recognisable significance.

   b) Related to curriculum change (level, style) generally.

   c) Teacher's role definitions (Values, goals, assumptions).

   d) Particular change processes - context factors.

   e) Additional general questions - hypotheses - questions for schedule.

Interview Initial Observations

1. Objective Observations.

(a) Margaret Grayston.

2. Observations on significant issues.

(a) Possessing immediate recognisable significance:

i. 140 If you make the syllabus too wide when you come to set exam questions you have to keep repeating them as they know nothing in depth.

ii. 170 Select the activities to ensure success - consequently exam dictates course - allow children to demonstrate strengths.

iii. 316 Reluctance to write about what they know physically e.g. rules.

iv. 380 Difficult task of setting questions to ensure equally level of difficulty for different games.

v. 420 Kids find P.E. easier than human biology - easier to pick out what is wanted.

vi 440 Lot of expert help from staff responsible for examinations - did all the running aroun d.

vii 472 Can't get lazy - got to keep working - with exam course - with P.E. it is very easy to get away with very little as head is not all that bothered.

viii 521 Some pressure to stop exam from mens dept as existence of exam is pressure for maintaining resource/time allocation and better children.

ix. 307 Facilities being on doorstep determine some content e.g. athletics track.

x. 199 I tend to spend a lot of time with exam group and team kids.

xi. 650 I think if I moved they would try to get rid of the course - we are a thorn in one or two peoples' flesh e.g. do too much P.E. after school.
I wouldn't flog them quite as much - I would not push them too hard.

xii 720 Why should I give to someone less qualified to teach them the good P.E. girls even if it is unfair (criticism).

xiii 800 She could not do a scheme because she is not motivated to do things which she does not like or cannot do. Myself learnt netball to do course.

xiv 060 You have got to push the standards - exam useful you can say if you want to pass you need to do some more work.

b) Related to curriculum change
i, ii, iv, ix.

c) Teachers definitions.
vii.

d) Teachers actions
x, xii, xiv.

e) Context factors
iii, v, vi, viii, xi, xiii.

3. Interview Special Characteristics.

See diagram.

Innovation which is succeeding but not totally accepted by school because of competition it presents to other established school activities.

4. Changes to schedule.

a) Is the examination a useful means of raising the standards of practical physical education in the school?

b) Might ensuring a high standard of schievement for the examination group be responsible for the majority of the children in the school getting fewer opportunities and less attention?

Interview Special Characteristics