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Chapter 5
Curriculum Development

Debate over the theoretical adequacy of design models has not prevented curricula being developed on a large scale during the last two decades. This practical enterprise, though extensive in scope, has not been subject to much detailed empirical study. The experience of different projects, programmes and schools has not been documented; the processes actually involved remain to a large extent 'curriculum mysteries'[1]. The first section of this chapter concentrates on how intended curricula have been developed at national and school levels. Although such curricula are generated in a variety of ways in different national contexts, it has been project teams and school staffs who, in England, have contributed most directly to answering the question 'What ought to be taught in schools?' It has been their conceptions which have found tangible form as proposed courses of study.

Curriculum projects and programmes

At national level, curriculum development was largely promoted through curriculum projects which, for almost two decades, were initiated through the Schools Council, as the major instrument of curriculum development. More recently programmes of work have superseded projects. Distinctions between programmes and projects are not hard and fast, but programmes are usually more general in scope than projects; they address broader issues, involve a greater variety of activities and participants and have less closely defined outcomes. As an illustration, between 1980 and 1983 the Schools Council sponsored five broad programmes concerned with purpose and planning in schools: the professional effectiveness of teachers, developing the curriculum to foster the skills and understanding needed in a changing world, helping to meet the exceptional educational needs of certain pupils, and developing methods of assessing and reporting on pupils' educational achievements. Participants in such programmes were engaged in a variety of activities such as conferences and seminars, small scale research, the development of case studies, the production of new materials, and the adaptation and dissemination of existing Council materials and initiatives.

Another recent programme of work has been the Microelectronics Education Programme (MEP), designed to help schools prepare children and young people for life in a society where microelectronic devices and systems are commonplace[2]. The programme has sponsored activities in two main areas: (i) investigating the most appropriate ways of using microcomputers as aids to teaching and learning, and (ii) introducing new topics into the curriculum, e.g. computer studies, and microelectronics in control technology. To do this, the programme has engaged in: (a) curriculum development involving projects at national and regional levels; (b) teacher training, especially at the inservice stage, and (c) resource organization and support.

In contrast to programmes, projects are investigations into more specific curricular problems made over a limited period of time, by teams of workers who are expressly employed for the purpose. Such investigations are limited in scope, duration and material provision. By their close, they are expected to have provided at least tentative solutions to the problems outlined in their terms of reference: for example, how should history, geography and social science be taught in the middle years? or how can recent advances in physics be incorporatd into a new style A level course? Projects are essentially 'temporary systems', existing alongside established educational institutions and attempting to catalyze them into some form of action. In England most curriculum projects have been sponsored by the Schools Council, though some local authorities have funded local projects. In recent years, local initiatives have increased

relative to national projects, partly because of the perceived ineffectiveness of much curriculum development at national level, and partly because of greater concern to develop local authority curricular policies (see Chapter 3).

Most national projects and some local ones have been based on a research, development and diffusion (RD and D) strategy, so called because research, development and diffusion are regarded as the major stages in the development of a new pattern or product. The strategy assumes that such development is a rational enterprise, that it is planned and sequential and that the development team and their potential 'customers' share a consensus concerning objectives. Two further assumptions follow, that acceptance of new ideas depends on rational persuasion, and that the applicability of the solutions offered is not affected by the different contexts surrounding different users. The oversimplified, unrealistic nature of these assumptions in the complex, value-laden, partially non-rational world of education accounts for some of the problems faced by projects based on this strategy.

Although some projects and some programmes have been concerned with producing findings which increase the information base available to decision makers, most have produced proposals for courses of study in the form of books for pupils, teacher guides, tapes, films and apparatus. How far have such activities reflected the prescriptive design models or their variants outlined in the previous chapter? When the range of projects and programmes is considered, the English picture is one of considerable diversity. Certainly it seems that many actual initiatives have not followed closely Tyler's model or its variants. The early science projects financed by the Nuffield Foundation either were not concerned with, or were ignorant of objectives-based models. Science 5–13[3] and Nuffield A level Biology[4] were two projects modelled on the Tyler rationale, with their aims being refined into objectives and teaching/learning strategies devised in relation to these. The North-West Regional Curriculum Project[5] also emphasised the classic four-stroke cycle of curriculum development with its panels of secondary teachers concentrating first on general and specific objectives before writing courses for early school leavers. The History, Geography, Social Science 8–13 Project was another which

employed objectives, divided into skills (intellectual, social and physical) and personal qualities (interests, attitudes and values). The team originally drew these up for pupils, but later became convinced of the necessity for developing further sets of objectives for teachers, for teacher-educators and for themselves. Although convinced of their usefulness, the team did not take a static view of objectives, but regarded their lists as provisional and subject to modification or reformulation as teachers became more fully involved in developing project ideas. In this way, it was believed that objectives would not do violence to the nature of democratic curriculum development characterized by Blyth as 'awkward, largely spontaneous and never complete'[6].

Objectives have featured in other projects too but often served, at best as rather general guidelines to curriculum design, and at worst as decorative additions, peripheral rather than central to a project's concerns. Interestingly, objectives do not feature in MEP's strategy paper published in 1981[7] or in the Department of Education and Science's policy statement, *The School Curriculum*[8] published the same year.

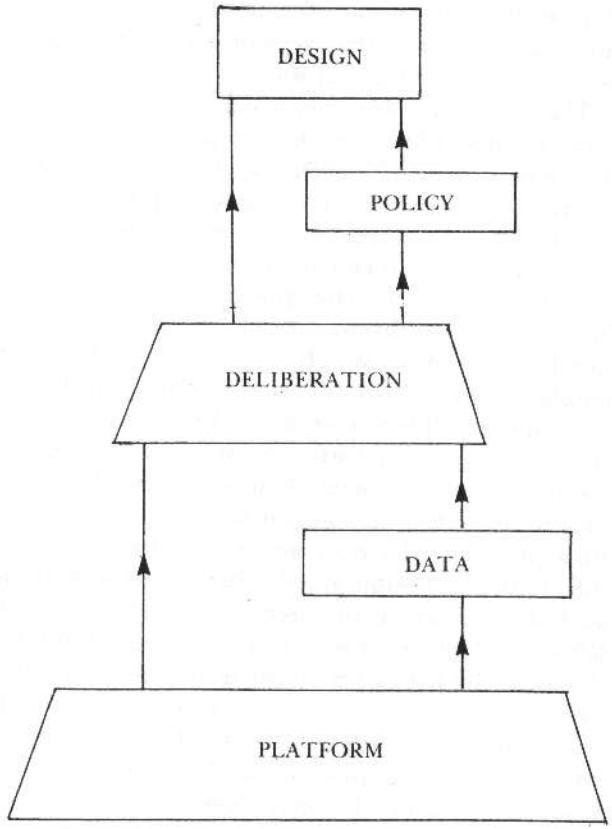
Because of its school-based rationale, Skilbeck's situational model has not been adopted by teams operating in a national arena, though the concern with particular contexts evinced by the Humanities Curriculum Project does come close to this. This project, already referred to on page 70, was the clearest example of the process model in action. Other projects, however, illustrated Stenhouse's contention that curricula can be designed other than by the pre-specification of objectives. *Man. A Course of Study*, an American social science curriculum for middle years pupils, was designed on a specification of content and pedagogical principles. It aimed to foster an understanding of the nature of man as a species and of the forces that shaped and continue to shape this humanity. Major concepts such as 'life-cycle', 'structure and function', 'world-view' and 'technology' were specified, as were principles of procedure for discovery/inquiry learning such as developing in pupils the process of question-posing. The curriculum did not pre-specify behavioural objectives, since it was based on the belief that knowledge is provisional, speculative and thus indeterminate. Similarly, in the mid-sixties Nuffield Junior Science did not

specify objectives for pupils, not did it specify content to be mastered. It was concerned instead with developing principles of procedure which would capture pupils' interests and involvement and promote their development through encouraging careful observation, recording, classification, hypothesis formation and experimentation. Its early demise lent credence to Stenhouse's point that the process model is very demanding on teachers.

How exactly curriculum development teams have undertaken designing and producing their proposals is far from clear: there are few detailed accounts of their internal operating procedures. Based on reports of American projects and first-hand investigation of the Kettering Project, designed to produce curricula and instructional materials for art education in American elementary schools, Walker[9] produces a descriptive model (Figure 6) which, he argues, reflects more faithfully curriculum development as practised than do prescriptive models. According to Walker, each participant brings to the enterprise a *platform*, a system of beliefs and assumptions which guide his subsequent thinking and planning. (This is similar to an individual's conception of education, referred to in Chapter two.) Empirical data collected by the team and principles derived from each developer's platform are used in the *deliberation* stage when the team make decisions as a result of their consideration of the arguments for and against alternative choices. Deliberation is also aided by a number of past decisions which constitute precedents or *policy*. As a result of such deliberation, curriculum materials are designed. The effects of design decisions can be evaluated empirically but the design itself can be justified by reference to platform principles only. Walker uses this model as a basis for understanding how the Kettering Project[10] operated. He analyses the deliberations of the project team and concludes that the essence of curriculum development is practical reasoning where problems are identified, proposals for the resolution of these conceived and articulated, and arguments offered for and against these. There is no adherence to a step-by-step model of curriculum planning.

Eisner, the director of the project, provides a complementary perspective on how the work was organized and how the team

Figure 6: Naturalistic model of curriculum development.*



* This figure is taken from Walker, D., (1971). 'A naturalistic model for curriculum development'. *School Review*, 80, page 58.

worked together[11]. He pinpoints the crucial parts played by the project's platform in providing 'an almost unarticulated covenant that gave direction to the work', and by very lengthy group deliberation as problems were presented from a variety of perspectives, and the likely effects of taking one course of action rather than another anticipated. This deliberation was akin to the deliberation of juries, where not only do facts have to be selected but values assigned to the facts. He considers that

models, concepts and empirical generalizations are not 'blueprints for curriculum construction but rather mnemonic devices that enable a curriculum construction group in their more passive and reflective moments to remember what might be an important consideration'.

There are two accounts which give some indication of how English curriculum developers set about their tasks. Gray[12] describes how the English panel of the North-West Regional Curriculum Development Project operated to produce a fourth and fifth year course for early school leavers. He stresses the time and effort needed to reach a measure of common agreement, due to the preconceptions and interpretations brought by different panel members as inputs to the development process. He charts the shifts in direction and emphasis that ensued as objectives and materials were developed. Shipman's work on the Integrated Studies Project[13] is more concerned with the interplay among agencies in the development enterprise than with how the project team as a group interacted and negotiated with one another to produce their proposals. He does get 'inside' the project and reports the different interpretations of project members towards key issues such as the nature of integration, job definitions, division of labour and relations with others, especially teachers. The book describes the pressures on the team, their uncertainty regarding procedures and outcomes and their uneasy relationships with others in the enterprise. It is clear from his account that curriculum development, at least as experienced by the Integrated Studies Project, 'does not proceed through a clear cycle from a statement of objectives to an evaluation of the learning strategies used. It is a process of bargaining, negotiation and horse-trading'.

Though Walker's model can be applied retrospectively to Shipman's account, it would be valuable to test it out fully in the English context not only in relation to national or local curriculum development projects but also to activities within programmes of work such as MEP or the Technical Vocational Education Initiative. It would be used to examine the nature of participant's platforms, the clashes of principle, perception and interpretation which occur, the kinds of alternative choices formulated, the decisions arrived at and the criteria for such

decisions. In this way a cumulative body of knowledge regarding the internal dynamics of curriculum building could be created.

Different styles

Although the internal processes of development teams are not well documented, their external operating procedures are 'public' and have occasioned more discussion. Three main sub-strategies can be distinguished among English projects and programmes: those based largely on academic expertise, on teacher expertise and on teacher-project programme cooperation in areas where special expertise does not exist. The first style assumes that new educational proposals are not being generated within the educational system and therefore a central team needs to be gathered together to initiate and manage the development of new courses of study. The central team creates new materials and sets up a network of trial schools in various parts of the country to test these. The centre provides the innovatory thinking; schools on the periphery respond by commenting upon the centre's proposals. Most of the 'first generation' projects, but especially the Nuffield maths and science projects, were characterized by this style[14], though many questions can be raised about its efficacy[15].

The second style works on the different assumption that new patterns of educational activity *are* being generated within the system but that support needs to be given and communication improved if such patterns are to be given wider currency. Projects such as The Middle Years of Schooling Project[16], Social Studies 8–13[17] and the Topic Work Project[18] aimed to gather information about 'good practice' and publish it in a form in which it could be used by others. This style, too, operates on a centre-periphery pattern but with the periphery playing the major part in the creation of new proposals. The centre becomes a clearing house of the periphery's ideas. Problems, however, arise as to what constitutes 'good practice' and how this can be communicated effectively to others operating in different contexts.

The third style views practising teachers as neither passive consumers of curriculum packages nor as self-generating

innovators, but as partners with teams in exploring and clarifying new approaches to teaching, usually in ill-defined areas of the curriculum. Examples of such projects include the Humanities Curriculum Project, the Integrated Studies Project History, Geography, Social Science 8–13, and more recently the Schools Council Industry Programme, and, to some degree, the Microelectronics Programme and the Technical Vocational Education Initiative. Such attempts at partnership are not easy to achieve: different platforms, conflicting definitions of the situation, problems of identification, communication and over-dependence are all likely to occur. MacDonald and Rudduck[19] point up the tendency of hard pressed teachers to become over-dependent on the central team, seeking their approval rather than testing out, criticising and reformulating their ideas. Shipman (*op. cit.*) graphically documents how each group related to the Integrated Studies Project defined the situation differently and how their definitions changed as the project developed. He stresses the importance of negotiation, adaptation, and compromise if development teams are to work with local agencies. He reveals an essential dilemma of the 'partnership' sub-strategy:

> Here the intention was to use grassroots initiative. But the context of contemporary teaching and curriculum development combined to frustrate this intention. Local initiatives take a lot of time, central initiatives often seem irrelevant at the local level. This is the Catch 22 of curriculum development.

The national project dominated curriculum development in England for fifteen years up to the beginning of the eighties. Well over a hundred and fifty projects were launched, and every area of the curriculum was catered for to some degree. In developing proposals for courses of study, projects encountered many problems[20] as did the programmes of work which succeeded them. No overall assessment has been made of the Schools Council's five programmes of work, though criticisms of the overall approach have appeared. The effectiveness of programmes such as MEP or the Technical Vocational Initiative has yet to be assessed.

Schools

In recent years, as the scale of curriculum development at national level has declined, more attention has been focused on small scale curriculum development centred around the individual school and the inservice education of its staff. This phenomenon is variously referred to as school based curriculum development, school focused curriculum development, school based inservice education and training (INSET) and school focused INSET. As Hargreaves remarks, it has been optimistically and zealously advanced as both guardian, if not modern patron, of teacher autonomy and professionalism and as a likely cure for much of the current educational malaise[21]: yet there is a dearth of research based analyses of the processes involved in curriculum and staff development at school level, nor have the products of such development been appraised. Very little is known about how new courses originate – the principles employed in their design, the methodologies used, the interpersonal processes involved and the ideological clashes that ensue.

Knowledge of how teachers plan intended curricula is scanty, but what evidence there is points to an opportune, short-term response to immediate problems rather than considered reappraisal of objectives and learning experiences in the light of changing circumstances[22]. Little research has been published into how primary school teachers plan their curricula, though Jackson[23] does indicate how, in the American context at least, classroom decisions are characterized by spontaneity, immediacy and irrationality rather than by reasoned consideration of objectives. He suggests that such attributes may have considerable value in allowing teachers to cope with the unpredictable, uncertain and often chaotic world of the elementary school classroom, but he does suggest a place for rational, systematic planning in what he calls the period of 'preactive teaching' before the children enter the classroom.

At the secondary level, Taylor[24] examined how English, geography and science teachers proceeded with planning. As a result of analyses based on discussions, syllabi and questionnaires, he characterized such planning as 'rather unsystematic' and incomplete. Much of the teachers' planning

seemed to be intuitive, governed by rule-of-thumb and drawing on past experience. It was a far cry from the 'logical' sequence of the 'rational planning' model or the considered thinking recommended by advocates of the 'process' model. In their actual planning, the secondary teachers gave greatest prominence to pupils' needs, interests and abilities; subject matter and aims were not regarded as so important; teaching methods were less prominent too and 'evaluation emerges as the concept in planning which teachers seem least to value or implement'. Bates[25] confirmed the *ad hoc* approach in many schools. After visiting fifty comprehensive schools he admitted that 'few schools had come up with a good method for planning the curriculum' and argued that the procedures used rarely took account of the requirements of all the parties involved – parents, pupils, staff and the school itself considered as an entity. As a result, he put forward his own prescriptive model of the administrative processes involved in planning. At a micro-level, Richardson[26] provided an interesting glimpse of some of the interpersonal complexities involved in planning courses in a large comprehensive school. Her account sensitized readers to the negotiations and compromises involved in such processes, but her research itself concentrated on the management of the school and did not analyse curriculum planning in any detail. Thus despite its widespread nature, the planning and production of school curricula is still a mystery or if not a mystery at least a 'shared secret'.

Even though there is a lack of detailed knowledge concerning planning procedures in schools, a shift in emphasis at policy level can be detected toward school based curriculum development, defined by one of its advocates as 'essentially a process in which the detailed strategies for a curriculum appropriate to the needs of the individual children in the specific school, or even in the specific unit of a school, are developed by cooperative discussion, planning, trial and evaluation'[27]. The 'centre-periphery' pattern of the RD and D strategy is giving ground to what Havelock[28] terms a 'problem solving' strategy. Here, ideally, schools initiate the process of change by identifying areas of concern or sensing the need for change. They translate these needs into definable problems, for which they then devise solutions, either through their own

efforts or through recruiting the help of outside experts. Unlike the RD and D strategy, which assumes a passive consumer, the problem solving strategy involves schools in active solution of their own problems. The stress is on local initiative and local commitment to reform, with project teams, advisers, college staff and others viewed as potential 'consultants' and with materials seen as resources to be 'mined' rather than packages to be applied. Skilbeck's situational model (page 70) provides a design framework which can be used as part of this overall strategy. Stenhouse[29] provides further support, arguing that with the help of educationalists in a consultancy role, teachers can be encouraged to research into their own problems and test their hypotheses in the classroom situation. In this way their professional skills can be refined, their understanding of teaching deepened and a contribution be made to the beliefs that 'ideas should encounter the discipline of practice and that practice should be principled by ideas'.

A number of examples illustrate the problem solving approach in action. Eraut[30] provides a brief case study of Granville Comprehensive School where in response to the need to provide a measure of continuity with feeder primary schools, a first year integrated humanities course was devised as a result of cooperative planning by several subject departments, supported by consultation with local inspectors, heads of local primary schools, LEA advisers and Institute of Education staff. Evans and Groarke[31] provide a detailed account of how a primary school staff developed and installed programmes of language development for younger children. A twelve stage procedural model was drawn up by the two principal 'change-agents' and implemented carefully and sensitively, with scope for participation and comment from the remaining staff at every stage. Outside agencies were not involved directly, though relevant educational literature was drawn on heavily and support and interest elicited from the chief education officer. The authors conclude that participation in such a school based exercise is the best medium for the inservice education of teachers. Elliott and Adelman[32] in the Ford Teaching Project provided a consultancy role for groups of teachers in East Anglia anxious to implement more effectively discovery/inquiry approaches in their classrooms. The two consultants helped

teachers to clarify their thinking in this area, analysed four different patterns of informal teaching, and through observing teachers in action, discussing teaching performances with teachers and pupils and encouraging the former to monitor their own teaching, they devised and tested a number of generalizations concerning teaching strategies.

Other examples of school based development are to be found in the collections edited by Eggleston[27], Walton and Welton[33], and Henderson and Perry[34]. The accounts therein are heavily descriptive, somewhat uncritical, and often written by leading participants or originators of the developments described.

School based curriculum development calls for new planning and managerial skills – what Taylor[35] terms 'procedural' and 'political' leadership. Teacher involvement in the process of curriculum development and in collegial decision-making offers an opportunity to enhance the professionalism, motivation and morale of teachers, but makes heavy demands in return, demands which some may not wish or be able to discharge. School based development cannot operate on a simple technical logic beginning with unambiguously defined needs and ending with an evaluation of the effectiveness of their resolution; it cannot operate simply by the application of rules of procedure derived from experts outside the school situation. It has to involve the arts of deliberation, judgement, conflict resolution and tension management. It has to contend with ideological problems posed by staff with differing views as to the purposes and practices of schooling. It has to contend with teachers' psychological problems consequent on the loss of security, the sense of threat and the feeling of confusion induced by the questioning of accepted practice, by the probing of personal and institutional façades, by the acknowledgement of substantial gaps between aspiration and achievement and by the confrontation with the essentially uncertain nature of teaching and learning. Logistical difficulties (money, time, resources, etc.) are important but the least intractable of problems[36].

At the present juncture, the increased emphasis given to school based curriculum development and inservice education can be noted, but its overall incidence and effectiveness are problematic. As Hargreaves[21] remarks in his overview of research in this area:

> While great amounts of time, energy and resources, and not a little hope and optimism, have been invested in school-centred innovation, its success has by no means been demonstrated, nor is its future effectiveness in raising (or even maintaining) staff motivation and morale in any sense assured.

Intended Curricula – the products of curriculum development

Many intended curricula have been developed since 1960. New courses, new learning materials, new teaching approaches and new forms of organization have been devised for use in schools. No attempt can be made here to describe this variety in any detail. At a national level the Schools Council's projects have covered all areas of the curriculum and catered to some extent for all age groups. At a more local level, curriculum development is also taking place, though this is not so carefully documented. For example, many secondary schools have experimented with CSE Mode III courses: many are devising common core curricula for at least the first three years of secondary school; many primary schools are rethinking their curricula in the light of the primary survey[37]; many middle schools are reviewing their curricula following an initial period of experimentation. Local education authority working parties have been active in producing curriculum policy statements in the light of the Department of Education and Science's *The School Curriculum* and the issuing of Circulars 8/81 regarding its follow up. Many study groups have been set up in teachers' centres and have produced discussion documents on matters of curriculum, teaching methods, assessment and organization.

Curriculum development can be profound or slight in its implications for practice. Radical curriculum innovation is a rare phenomenon, though perhaps the Humanities Curriculum Project came closest to this characterization. The project team pioneered an almost completely new approach to the study of controversial social problems by secondary school pupils. As indicated in Chapter Four, this approach centres on class discussion of reference material with the teacher cast in the role

of neutral chairman whose concern is that each pupil should come to his own decision on rational grounds. The team produced a very carefully worked out teaching strategy and produced sets of reference material for pupils including reproductions of articles, extracts from books, pictures, tapes and films, all used to back up themes such as 'Poverty', 'War' or 'Relations between the sexes'. No other project or programme has been quite so innovatory with respect to content and pedagogy.

With the introduction of technological studies into the secondary school curriculum, Project Technology represented another curriculum innovation, though its innovatory impact was more confined to creating a favourable educational climate for such studies than with producing materials or developing methods. It pioneered, however, some multi-media courses within the general field of technology and produced enrichment materials to enable teachers to add a technological strand to their work. How far the Technical Vocational Education Initiative or the Microelectronics Programme will result in innovatory courses remains to be seen.

In the primary field, no one project or innovation parallel to the Humanities Curriculum Project can be cited, but the introduction of primary French and the development of the initial teaching alphabet (ita) as a medium for teaching early reading were innovative, at least in terms of content. In general, it is doubtful whether the majority of other primary and secondary projects could be regarded as radically innovative, since they tended to grow out of, and modify, pre-existing practices. Most of them proposed moderate changes in content and teaching methods. More up to date material, greater use of educational technology and apparatus, and a greater stress on pupil initiative and activity characterized many of them. Thus the Nuffield O and A level courses in physics, biology and chemistry developed out of, rather than revolutionized, practice in schools. The Integrated Studies Project built on past experience of secondary school humanities teaching and attempted an integrative, team-teaching approach. Likewise most local efforts at curriculum development have been modifications, rather than radical innovations: many have been little more than careful systematizations of current practice.

Proposals for courses of study have proliferated during the last decade or more. Developing materials and proposals is not easy, but getting them known to, and accepted by, those in schools is a complex matter.

Diffusion and dissemination

Once developed, a new or modified course may be implemented by the person producing it without any attempt on his part to inform or influence his colleagues. In most cases, however, information about such an intended curriculum does spread from its point of origin. It may only be to a neighbouring classroom or the members of the same department, but it can spread much further afield. In particular, curriculum projects have tried to influence the decisions of teachers on a national scale through giving them information about the nature of their proposals. 'Diffusion' is the general term used to refer to the ways in which information about curricula spreads through educational systems. 'Dissemination' can usefully be thought of as a term pointing up those diffusion processes which involve systematically planned attempts at providing information so that individuals can understand what new curricula involve[38].

In examining how information about curricula is diffused or disseminated, models have been borrowed from other areas of study, in particular rural sociology and management theory. One such framework is the 'social interaction' model used by sociologists studying the diffusion of agricultural innovations. With this perspective, educational systems are viewed as complex networks of social relations along which information is passed, with some institutions and individuals being central to the network, some more peripheral and some almost isolated. New practices develop in different parts of educational systems and news about them is transmitted through the networks. In the process the 'message' is invariably altered by the preconceptions, interests and perspectives of those doing the transmitting. How quickly an individual receives information about a new proposal and how 'pure' the information is,

depends on the person's position in the network relative to the source of proposal. Working within this 'social interaction' framework, House[40] relates it to an urban context and suggests that here the pattern of spread changes. Whereas, in rural areas, communication spreads in regular waves from sources of change through personal face to face contacts, in urbanized areas new proposals leap from one large concentration of population to the next largest in size. In contrast to rural areas, size is more important than distance in determining the rate of spread.

Schon[41] outlines three other dissemination models, each expressly concerned with the management of information concerning new patterns or products. In his 'centre-periphery' model, the process of dissemination is managed centrally with proposals being fully developed and 'tooled up' prior to their dispatch from the centre to users on the periphery. A variant of this, 'the proliferation of centres' model, involves a differentiation into primary and secondary centres with the former supporting the latter in their task of more local dissemination. Schon's third model is a 'learning systems network' in which there is no permanent centre or semi-permanent set of definitive proposals but instead a continuously changing set of ideas, a number of shifting centres and a highly developed communications system which connects all parts of the network.

There are a number of factors which are influential in determining the effectiveness of dissemination strategies based on such models. One important element is the input of energy and resources not only at the point of initiation of new curricula but throughout the system. In particular, the level of local authority support is very crucial and is determined by factors such as the size of the authority, its financing and staffing policies, the number of its advisory personnel, the way they perceive their role, and the influence of individual personalities. The nature of the communication links formed, whether personal (courses, conferences, informal contacts) or formal (mass media, books, journals) is important as are the strengths of such links and their direction (one-way, or two-way thus enabling feedback to take place). This was pinpointed by Rudduck's[42] study of the dissemination of the Humanities

Curriculum Project which stressed the crucial importance of both a communication structure and a systematic programme of training and support.

The nature of the proposals being diffused also affects dissemination: it is likely, for example, that proposals enshrined in teaching/learning materials for pupils are more effectively diffused than new educational principles not embodied in the form of such materials. Rudduck argues that the dissemination of the Humanities Curriculum Project was conditioned by its nature – it was complex (especially some of its concepts such as 'procedural neutrality'); it was controversial; it had no existing curriculum base and it was demanding in terms of human and material resources. All these factors made it that much more difficult to disseminate. Kelly[43] also suggests that the form of a communication – its quantity, timing, style, orientation and level – affect the quality and rate of dissemination.

The four dissemination models can be usefully employed in examining English practice. The social interaction model mirrors the way in which new ideas have been diffused for most of this century. In England, new practices were, and still are to a large extent, spread through social networks, with HMIs, local advisors, courses and informal contacts being important elements. The centre-periphery model captures the essential features of the dissemination strategy adopted by publishers where materials are produced centrally in a final form prior to sales campaigns to get these into schools. The Schools Council tended to operate a proliferation of centres model. The primary centres were the Council itself, institutions such as the Centre for Applied Research in Education or project members seconded temporarily for a period of 'aftercare'. Secondary centres were teachers' centres, development centres, regional dissemination centres and sometimes individual schools (where these have been involved as trial schools in individual projects). In its latter days, through the adoption of its five programmes of work (page 77) and its establishment of a computer based information retrieval system, the Schools Council was moving towards Schon's third model. The pattern of dissemination to be established by its successor, the School Curriculum Development Committee, remains to be determined.

There has not been much research into dissemination in

England. One important piece of work is Rudduck's sensitively portrayed case study of the Humanities Curriculum Project[42]. She describes the features that made dissemination difficult and the consequent need for a strategy involving the training of people who could offer local support, communication and training to teachers willing to experiment with the approach. Open days, central training courses, the formation of regional associations, the establishment of a communications network, the development of inservice materials and liaison with local education authorities were some of the components of the dissemination strategy. Problems of communication, authority support and training were highlighted as was the very varied nature of LEA response. She concludes, 'There was – and should be – no master plan for the dissemination of a project'. This view is supported by the Curriculum Diffusion Research Project[44], which investigated the diffusion of science projects by means of questionnaires, data from examining boards and case studies of particular projects. According to this research, authorities and schools rarely use organized strategies for dissemination. Temporary groups (such as groups of interested local teachers) and unofficial leaders play important roles, but overall the pattern is very diverse.

> Unique patterns of factors perceived in a variety of forms and linked to unique patterns of communicating and decision making have contributed to a variety of responses to the advent of curriculum development projects[44].

A good deal of time, energy and resources have been devoted (rather belatedly perhaps) to dissemination in England, but the major problem in curriculum reform is not primarily one of communication so that informed choices can be made. The major task is to get those in schools to consider and adopt proposals for change, whether these are imported from 'outside' or developed within the institution.

Adoption (including implementation)

However well organized, dissemination of information does not guarantee that proposals for intended curricula will be

acceptable to, and accepted by, individual schools and teachers. Adoption involves more than understanding what is communicated about a curriculum proposal. To adopt a proposal implies at least an acceptance of it as a guide to practice, but such acceptance can be token in the sense that it does not result in any changes of practice at classroom level. It is possible to speak of adoption in a fuller sense, where the proposal is not only accepted 'in principle' but is implemented (with modifications) in particular school contexts. Here adoption is used in this fuller sense and thus includes acceptance, implementation and adaptation[45].

Because of the inadequacies of dissemination and the difficulties of ensuring adoption of new proposals, school based curriculum development is being proposed as a way of gaining the cooperation and involvement of teachers in the task of reshaping courses. But for some time to come at least, most proposals for new curricula are likely to originate outside any particular school, and strategies are required if these proposals are to be considered and accepted, even if acceptance leads to drastic adaptation in the light of local circumstances.

Chin[46] identifies three main types of strategy employed in fostering planned organizational change. His distinctions are useful in describing three different strategies used to promote the adoption of curricula. Each of these is 'rooted in a particular image of the practitioner'[47]. 'Empirical-rational' strategies assume that potential adopters are reasonable and will act in a rational way. The main task of the agent or agency promoting change is to demonstrate clearly the superiority and greater effectiveness of the new proposals compared with those they are to replace. These strategies underlie most attempts at promoting curriculum change in the recent past: teacher guides, pamphlets, policy statements, publicity materials and conferences are all means employed to foster the intellectual acceptance of new curricula. 'Power-coercive' strategies assume that potential adopters are powerless functionaries who are to be forced to comply with the plans, directions and leadership of those with greater administrative or political power. Since the withdrawal of the Revised Code, such strategies have not been employed on a national scale in England, though doubtless individual headteachers or heads of department have tried to

foster adoption of their proposals by such means. Such forms of administrative/political intervention do characterize adoption of curricula in educational systems such as those of the USSR and other East European states. 'Normative-reeducative' strategies assume that would-be adopters are in principle willing to cooperate provided they can appreciate the relevance of new proposals to the problems facing them. What is important is how they see their problems. The strategies involve not just supplying appropriate information but changing attitudes, skills, values and relationships so that problems are seen in a new light. Change-agents work with potential adopters in interactive situations: group dynamics are employed to foster attitudes conducive to acceptance. This strategy underlies some inservice workshops mounted in England such as those concerned with new approaches to primary mathematics; it is an important feature of the concept of school based curriculum development discussed earlier.

Although many factors influence adoption, the central importance of personal factors needs to be stressed:

> Every teacher invests a considerable part of his career in acquiring a set of loyalties, professional commitments and intellectual perspectives . . . the adoption of innovatory principles and subsequent commitment to them require substantial transformation of an individual's identity[48].

New curricula and even substantial modifications of current practice threaten teachers' established identities and the values and attitudes which sustain them. They require changes in work-styles and relationships which may well threaten the fragile basis of classroom control. Such changes also impose an additional burden, that of initial incompetence. In MacDonald's words:

> Genuine innovation begets incompetence. It de-skills teacher and pupil alike, suppressing acquired competences and demanding the development of new ones . . . In the end the discomfort will be resolved one way or the other, by reversion to previous practice or by achieving new skills and new frameworks[49].

The institutional context constitutes another set of factors affecting adoption decisions. The stability of an institution, its leadership, its formal structure, its patterns of communication and decision making and the roles taken by its teachers all play a part in influencing an awareness of possible changes, a willingness to examine existing practice critically and a capacity to adopt (and adapt) new proposals in a way which endures their effectiveness. According to MacMullen[50], autocratic and bureaucratic organizations are likely to stifle creative responses to problems. Organizations operating along consultative lines are likely to generate incremental change by being open to pressure from various interest groups but are unlikely to gain the whole-hearted support of junior staff and pupils. Collegiate decision making may result in greater involvement of all the staff but may prove resistant to change from without. Participatory decision making by both staff and pupils is likely to generate incremental change, to be resistant to fundamental changes in academic matters, but may accept far reaching changes in social relationships.

The nature of the proposals themselves radically affects their chances of adoption or adaptation. They may be variations on current practice easily assimilable without disruption; they may involve more substantial alterations but keep the current overall framework intact; or they may necessitate radical restructuring and reorganization. Rogers and Shoemaker[51] isolate a number of other properties likely to make proposals more or less acceptable: their ease of explanation and communication to others (communicability), possibility of trial on a partial and limited basis (divisibility), difficulty of use (complexity), congruence with existing values and patterns of behaviour (compatibility), and intrinsic superiority over what already exists (relative advantage). Doyle and Ponder[52] argue for the importance of what they call the 'practicality-ethic' in decision making by teachers; i.e. that three general criteria seem to be used when teachers decide whether a curriculum proposal is practical and therefore 'adoptable' – instrumentality, cost and congruence with teachers' perceptions of their situation.

The amount of research undertaken regarding adoption of curricula has not been great. American research on innovation in a variety of fields indicates that the pattern of adoption

follows a predictable S-shaped curve with a very slow rate at first, followed by a period of rapid adoption and concluding with another long period characterized by a slow rate of adoption. Mort and his colleagues[53] have related adoption with levels of financial provision in school districts and conclude that it is a very slow process: they cite a period of fifteen years before a new proposal is accepted by three per cent of schools. Their empirical work was undertaken three decades ago and their pessimistic conclusions may now be invalid because of more recent attempts at the management of dissemination and adoption. A more recent large-scale study by Mann and others[54] has investigated the impact of four federal programmes (Right to Read, Vocational Education. Bilingual Education and a variety of Title III activities) aimed at promoting educational change in American schools by funding innovative projects for a trial period. From their survey of 293 projects and their closer examination of 29, they stress the importance for adoption of mutual adaptation by projects and schools and of the creation of receptive institutional settings. They conclude:

> The main factors affecting innovations were the institutional setting, particularly organisational climate and the motivations of participants, the implementation strategy employed by local innovators to install the project treatment, and the scope of change implied by the project relative to its setting. Neither the technology nor the project resources nor the different federal management strategies influenced outcomes in major ways. Thus project outcomes did not depend primarily on 'inputs' from outside but on internal factors and local decisions.

Other American research on adoption and implementation has been surveyed and appraised by Fullan[55].

In England, information about adoption is scanty. The Curriculum Diffusion Research Project[44] reports that the rate of uptake of Nuffield O level projects followed the predicted S-shaped curve, so that by 1972, six per cent of possible candidates were being entered for new-style O level biology, 15 per cent for chemistry and 12½ per cent for physics. MacDonald and Walker[20] claim that a third of all secondary

schools had adopted Geography for the Young School Leaver within fifteen months of its materials being commercially available. Other measures of interest in new curricula are available: the number of candidates for new-style GCE and CSE mode III examinations, the purchase of materials from publishers and the readership of Schools Council working papers. Such figures are encouraging to proponents of change: they do show that many schools and teachers are aware of new developments and want to know more about them. They are, however, only indications. Purchasing materials does not mean that they will be used appropriately; buying a working paper does not necessarily result in any new work being done; entering pupils for a 'new' examination does not guarantee that they have been taught using 'new' methods.

As English research into adoption has been small, information is not available to 'flesh out' these indications. One major national research project, Success and Failure and Recent Innovation, spent a considerable period of time investigating how a sample of secondary school projects were received in schools. The results of its case study approach were not fully reported. It was not until 1976 that the Schools Council finally commissioned a project to monitor the uptake of its materials. In May 1978, this Impact and Take-up Project published a first interim report[56] based on a survey of primary schools. Its findings suggest that there was some use made of Schools Council and Nuffield Projects but not on an extensive scale. In particular, 80–85 per cent of primary heads claimed that at least one project was being 'used' in their schools. However, on similar evidence, over half the projects examined were being 'used' in less than 10 per cent of primary schools.

A second interim report[57] describing results of a secondary school survey was issued in 1980. According to teachers' questionnaire responses, over half of secondary schools were making some use of materials from the Nuffield Science projects, Scottish Integrated Science and Geography for the Young School Leaver. Other materials in use in over two-fifths of schools had originated in the Language In Use, History 13–16 and French Modern Languages Projects. Other research has been small-scale. Smith[58] relates the adoption of Nuffield Junior Science to the activities of a small group of activists who

were engaged in the project from its early stages and attempted to sustain momentum after the initial phase. The long-term adoption of the project's approach was hindered by the migration of these activists.

Bennett's[59] survey of teaching styles in the North-West of England suggests that the adoption of child centred styles was far less widespread than commonly supposed. Brown's[60] survey of fifteen primary schools known to have adopted at least one of three innovations, stresses the importance of the head in making adoption decisions and the almost casual approach to curriculum development in the schools. The crucial role of the head is also illustrated by Dickinson's[61] study of middle schools in Hull and Shipman's account of trial schools in the Integrated Studies Project. Other small-scale studies are reported in a survey by Harding, Kelly and Nicodemus[44] written as part of their work on the Curriculum Diffusion Project.

Lastly, the surveys conducted by Her Majesty's Inspectorate in first[62], primary[63], middle[64] and secondary[65] schools do not provide evidence of widespread adoption of new curricula. The following statement made by HMI about primary science might be equally applicable to many other areas of the curriculum: 'the ideas and materials produced by curriculum development projects have had little impact in the majority of schools'[63].

There is a widespread feeling among educationists that adoption strategies have not been all that successful and that the first decades of curriculum development in England have had a major effect on only a minority of schools, even if they have affected many more in minor ways. Hoyle, for example, suggests that the RD and D strategy has been less successful than some protagonists hoped[15]. MacDonaldd and Rudduck[19] describe a phenomenon they term 'innovation without change'. Blyth[66] talks of the 'failure of previous projects to make a lasting impact'. However, before a judgement is made regarding the degree to which schools have accepted new proposals, the warning of MacDonald and Walker[23] needs to be heeded. They suggest that project teams engage in 'image manipulation' – presenting one image to teachers and a different one to their academic colleagues and critics. What teachers implement may well be very close to the image the project team put over, though this may be very different from the image held by educationists.

Thus, what is the appropriate implementation from one perspective may seem like failure to adopt the proposals in their pure form from another point of view.

Whatever the degree of adoption, there is no doubt that some progress at least has been made in curriculum development in the last two decades. Its complexities and imponderables have been exposed, a language for discussing curriculum change has been developed, a bank of valuable teaching/learning materials has been produced and expertise in the development of resources has been accumulated. A foundation has been laid for future curriculum development even though this may take a very different form from the project dominated work of the late 1960s[67].

Conclusion

The question, 'What ought to be taught to the young?' has always been important – to society itself, to its various constituent groups and to the young themselves. It has been asked in the past but it has not always generated an imaginative, forceful response in the form of carefully considered practical proposals for intended curricula. During the last decade or two the question has been asked more urgently and a more systematic response has been made to it. Curriculum development is more than an educational or pedagogic response: it has political, ideological, social and economic implications, as it helps shape the young's view of themselves and their world. Because of its concern with what ought to be taught and with what education 'means' it cannot be value-free. It is inevitably a focus for value conflicts and its management is both 'a practical and political art'[68]. This art is equally important at the next stage of curriculum process where proposals for intended curricula are transacted and carried out in practical terms by teachers and pupils.

Further Reading

1. STENHOUSE, L. (Ed) (1980). *Curriculum Research and Development in Action*. London: Heinemann. A collection of case studies of fifteen major curriculum development projects, each of which is appraised by an outsider, whose appraisal in turn is discussed by a representative of the project.

2. BECHER, T. and MACLURE, S. (1978). *The politics of curriculum change*. London: Hutchinson. This is a well-written, thought-provoking analysis of curriculum development since 1945. It introduces a number of concepts which help make sense of the complexities of development activities.

3. MACDONALD, B., and WALKER, R. (1976). *Changing the Curriculum*. London: Open Books. A challenging examination of curriculum development between 1960 and 1975 with more general chapters being supplemented by detailed analyses of particular projects.

4. CENTRE FOR EDUCATIONAL RESEARCH AND INNOVATION. (1979). *School-based Curriculum Development*. Paris: OECD. Begins with a useful theoretical section on the case for school-based curriculum development, followed by six case studies including Eggleston's 'School-based curriculum development in England'.

Notes and References

1. See: BECHER. T. (1973). 'Curriculum mysteries', *Times Educational Supplement*, 26 October 1973.
2. FOTHERGILL, R. (1981). *Microelectronics Programme: the Strategy*. DES/Welsh Office.
3. The materials from the Science 5–13 project are published by MacDonald Educational. For an overview of the project's strategy see: ENNEVER, L. and HARLEN, W. (1972). *With Objectives in Mind*. London: Macmillan Education.
4. Materials in Nuffield Advanced Level Biological Science series were published by Penguin Education, 1970–1.
5. The North-West Regional Curriculum Development Project materials were published by Blackie and Holmes McDougall. For a view of the project see: RUDD, W. (1968). 'The North-West Regional Curriculum Development Project', *Forum*, **10**, 40–2.
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11. EISNER, E. (1975). 'Curriculum Development in Stanford University's Kettering Project: Recollection and Ruminations', *Journal of Curriculum Studies*, **7**, 1, 26–41.
12. GRAY, K. (1974). 'What can teachers contribute to curriculum development?', *Journal of Curriculum Studies*, **6**, 2, 120–32.
13. SHIPMAN, M. (1974). *Inside a Curriculum Project: a case study in the process of curriculum change*. London: Methuen. Shipman's account also contains a perceptive account of the relations between the project team and the trial teachers. JENKINS, D. 'Schools, teachers and curriculum change', 94–120.
14. For an account of 'first generation' project development see: BANKS, L. (1969). 'Curriculum Developments in Britain 1963–68', *Journal of Curriculum Studies*, **1**, 3, 247–59.
15. See: HOYLE, E. (1973). 'Strategies of curriculum change'. In: WATKINS, R. (Ed). *In Service Training: structure and content*. London: Ward Lock. Also, RICHARDS, C. (1974). 'The Schools Council: a critical examination', *Universities Quarterly*, **28**, 3, 323–31.
16. The two reports produced by the project are: BADCOCK, E. *et al.* (1972). *Education in the Middle Years*. London: Evans/Methuen Educational. ROSS, A., *et al.* (1975). *The Curriculum in the Middle Years*. London: Evans/Methuen Educational.
17. See: LAWTON, D. *et al.* (1971). *Social Studies 8–13*. London: Evans/Methuen Educational.
18. BRADLEY, H. (1983). 'Developing pupils thinking through topic work', *Primary Education Review*, **18**, 11–3.
19. MACDONALD, B. and RUDDUCK, J. (1971). 'Curriculum research and development projects; barriers to success', *British Journal of Educational Psychology*, **41**, 148–54.
20. For an interesting analysis see: MACDONALD, B. and WALKER, R. (1976). *Changing the Curriculum*. London: Open Books.
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