CURRICULUM DEVELOPMENT IN BRITAIN

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INTRODUCTION

Ever since formal schooling began curricula have been 'developed' or changed, but in Britain, as in many other ocuntries, the pace of change has increased tremendously during the past decade. Pressures to renew and modify school curricula are many and varied; on one hand we have the knowledge explosion and rapid scientific and technological innovation, and on another we witness enhanced individual and social goals for education within a context of overt economic and manpower planning. Specifically in Britain, additional pressures for curriculum reform have arisen from governmental decisions to raise the school leaving age from 15 to 16 in 1973 (postponed from 1971 due to economic factors) and to reorganise secondary education along comprehensive, non-selective lines.

The first indication of a shift from the sporadic and fragmentary kind of curriculum renewal, traditionally promoted by gifted individuals and groups of enthusiasts, came in Britain in 1961 when the Nuffield Foundation (a large charitable fund) gave a considerable grant for the development of new courses in physics, chemistry and biology for pupils of above average ability aged between 11 and 16. Since then have followed a host of other curriculum development projects for school pupils of all ages and abilities, some again sponsored by independent foundations, but most more recently by the Schools Council. The Schools Council is a government financed but idependent body, and was set up in 1964 for overall surveillance of curricula and examinations in the schools. Currently it is spending something approaching £ 2 M. annually on curriculum development, and it has already amassed an impressive list of publications. Teachers and other relevant professionals within the education service are fully represented on the Council's numerous committees. The Council has stimulated the setting up of regional curriculum development centres financed by the local education authorities who have also appointed advisors and coordinators for the implementation of reforms at the local level. Within a relatively short time therefore curriculum reconstruction and development has become institutionalised. Developments are being backed by increasing research into needs, learning

problems, administration and social and economic trends, but many of these enquiries are coming too late to provide adequate guidance for present action. Useful innovations in teaching approaches which are likely to be of use in many disciplines at both primary and secondary levels are being developed and investigated by the 'Resources for Learning Project' which is experimenting with new teaching methods, groups, aids and architecture rather than with specific learning content. Learning packages, including programmed and audio-visual materials are being designed to overcome the traditional 'lock-step' of the class in which every pupil is involved in the same activity at the same time. Learning is viewed as an individualised process and materials are intended to be flexible to meet individual needs; a pupil's class neighbours in addition to his teacher are regarded as a 'resource for learning' and thus some of the old collaborative 'cheating' by pupils is being sanctified to become the new learning.

DEVELOPMENTS IN PRIMARY SCHOOLS

The relative professional freedom of the British teacher is well-known, and this freedom is most extensively utilised in the primary schools where the partially constraining external examinations are rapidly being abolished as a consequence of the move towards non-selective secondary education. (Local education authorities are phasing out the traditional competitive examination for entry into secondary grammar schools and taken by pupils towards the end of their primary education at age 11 plus.) The responsibility for framing the individual primary school curriculum rests almost totally in the hands of the teachers with coordination by the head-teacher, and the approach to the child has been influenced most notably by the ideas of Rousseau, Pestalozzi, Froebel, Dewey, Macmillan, Isaacs and Piaget. Recent developments promoted by the Nuffield Foundation and Schools Council have all sought to re-emphasise a child-centred approach in the primary school.

English, which is for most the mother tongue, permeates the whole curriculum and it is recognised as a principal means towards individual personal maturity. Children are encouraged to talk freely to one another and to their teachers, and the influence of language on children's thought and mental development is becoming extensively recognised. A formal study of grammar and spelling has given way to a greater use of poetry, drama, and creative writing stemming from the child's own experiences. The 'Initial Literacy Programme' is a new coordinated scheme in language, both reading and writing, stemming from speaking and listening; its aim is to develop the child's comprehension naturally out of its parents' habits of speech and reading so that it is encouraged to value its own store of words and to supplement this from the linguistic materials published by the project. Alongside this official project, the independent

publishing houses contribute towards improvements in literacy through their own reading scheme programmes, some of which are genuine curriculum developments; for example the 'Key Words' reading scheme which is based upon word usage frequencies, and material associated with the 'Initial Teaching Alpabet' which utilises an extended phonetic alphabet in order to help children in the early stages of learning to read before transferring them to books in traditional orthography.

In the early 1960's a study of French began to appear in a few primary school curricula. Since then, bolstered by a Nuffield project, this movement has accelerated to a point where about one quarter of British schoolchildren are beginning to study this foreign language at the age of 8 instead of the traditional age of 11. Audio-visual methods are being extentively exploited by teachers who have at their disposal several alternative courses. As with the teaching of English at this level, grammatical explanations receive comparatively little stress in comparison with oral activities. A long term evaluation of this curriculum development is being undertaken by the National Foundation for Educational Research, but whatever the results it seems likely that French in our primary schools is here to stay.

Recent developments in mathematics teaching have been considerable as a result of pioneer work by teachers provided with appropriate institutional support. Concern has centred upon the many children who have developed conceptual blockages in mathematics as a result of older methods. Emphasis on mechanical, memory-based manipulations is therefore giving way to situations in which the pupils are guided to discover their own numeracy and spatial proplems with a view to a deeper understanding of the underlying mathematical concepts. The pupils' grasp of number is aided by sorting and matching activities; Cuisenaire rods and Dienes' multi-base arithmetic blocks are frequently used; mappings, graphs, pictorial sets and flow charts are becomming commonplace in the child's vocabulary. Although these newer teaching ideas offer greater flexibility to the teacher in terms of presentation and sequence, and an undoubtedly greater active involvement of the pupils, some fear that the primary school child may grow up with less concern for accuracy and computation than is socially essential. The aim however is to produce through mathematics, thinking, articulate and adaptable people rather than well-drilled parrots, and the indications are that for many children the subject has become more relevant and enjoyable.

Complementary to the newer work in mathematics, studies in science have been extended from the traditional 'nature study'. While the child's natural interest in living things is still respected and catered for, aspects of physical science are also appearing, and at several points (e.g. measuring and weighing) these provide useful material for the pupils' mathematical development. Two officially sponsored projects have been initiated, and the heuristic method of

'learning by discovery' generally receives greatest stress. The aim is not to introduce science in a formal, logical sense – a manner more appropriate for older children – but to give insights into scientific ways of thinking through a practical examination of problems and phenomena which are common in the child's everyday experience. Large collections of resource material are now becoming available to support the teachers, many of whom have little formal background in science.

Many other changes in the British primary school scene have been evident in the past decade without formal institutionalised curriculum development programmes. Through the inspiration of individual teachers and changes in initial training and in-service courses, approaches to art, drama, movement and music have all undergone renewal. Yet despite these changes the curriculum for the primary school child has retained and improved its integrity and coherence. A visit to a church, with history and religion in mind, might easily result not only in descriptions, poems, paintings and drawings but also in a consideration of the engineering problems involved in construction and an estimation of the weight of the pillars. This is to be welcomed since it not only reflects the nature of young children and how they learn, but it demonstrates the relationships between subjects which have been somewhat arbitrarily classified, and which have no separate meaning for the young child or the modern primary school teacher.

DEVELOPMENTS IN SECONDARY SCHOOLS

Secondary education in Britain is in the melting pot. Teachers and their curricula are not only endeavouring to keep pace with developments in the subject disciplines, they are also having to meet the large demands resulting from the establishment of comprehensive schools and the extension of compulsory full-time schooling by one year. Many development programmes have been initiated to meet the latter demand and these have relevance for all secondary school pupils. However because we seem to be changing all the variables at once, a meaningful map of curriculum reform is somewhat difficult to chart.

In common with the primary schools, renewal in mathematics and science is well established for most levels of age and ability, and has been stimulated by the nation's increasing need for a scientifically literate and numerate population. Relatively open-ended practical work performed by the pupils themselves is widely considered to be an essential component in the approach to science. Attention is also being given to the introduction of applied science and technology into school programmes as a result of national manpower problems and the quest for a greater pertience or relevance of experiences at this level. Craft work is being integrated with applied science in order to give expression to the crea-

tive aspects of technology so that pupils can discern the influence of technology in society, and thereby lead more effective and satisfying lives.

In the humanities, an attempt is being made to devise a stimulating, relevant and integrated programme involving English, history, geography, religious education and social studies. Here emphasis on traditional subjects is giving way to a fuller realisation of their inter-relationship, and the intention is to use the experience-based learning techniques of the primary school for humanities at the secondary level. Development projects in the teaching of French, Spanish, German, Russian and Classics are also underway and a promising long-term enquiry into the problems of social and moral education has begun. So many subject areas are currently receiving attention that it is almost 'unfashionable' for a secondary school subject not to be taking part in a sponsored development project.

The structure of the English sixth form, with its distinctive bias towards specialisation for university entrance, has tended to dictate the development of secondary curricula, perhaps too rigidly, in terms of subjects. Although the nature and content of sixth form studies is now becoming much broader because of the continuing presence in school of a wider range of ability of older pupils, relatively little *basic* rethinking of secondary school programmes has taken place. The work of James' small group at Goldsmiths' College, London, is a notable exception; she advocates a flexible 'fourfold curriculum' for secondary schools based upon (I) inter-disciplinary enquiry (II) autonomous subjects (III) remedial programmes and (IV) individual pupil interests. Enquiry, making (creating), and dialogue are central activities, schooling being viewed not as an introduction to eternal certainties by paternalistic teachers but rather as an extension of experiences, frequently through group work. The 'fourfold curriculum' is a linear extension and concrete embodiment of much recent educational thinking, and it is being used in a number of secondary schools, more particularly with those pupils who are not in the upper quartile of general ability. Extensive rethinking of the curriculum at the secondary level is however subject to strictures created by the external examination system – not only for university entrance at 18-plus, but also at 15 or 16-plus for ordinary level and C.S.E. which mark the end of the formal general education programme. Here, diversification of responsibility between some 22 different examining authorities tends to empede cooperative action for rapid and unilateral reform.

DEVELOPMENTS IN SCOTLAND

The organisation of schooling in Scotland is independent of that in England and Wales. A consultative committee on the curiculum, set up by the Secretary of State for Scotland, initiates and coordinates developments with the aim of

keeping the school curriculum under continuous review. The 24 members of this Committee were appointed as individuals for their personal knowledge and experience – rather than as representatives of particular organisations, the latter tending to be the practice within the Schools Council. The Scottish picture is one of greater centralisation and there is only one examining body for secondary schools.

Curriculum developments in Scotland in many instances mirror those in England and Wales, though in some cases (e.g. secondary science) they have preceded those south of the border. The large scale adoption of new curricula is tending to be much more rapid than in England and Wales; centralisation of resources and policy-making seems to be paying off in terms of curriculum modernisation, particularly in the secondary schools; for example, every school had, without compulsion, adopted the new and forwardlooking alternative O-grade chemistry syllabus (age 12–16) within five years of its original publication. Yet the individual Scottish teacher does not seem subject to overbearing external dictation; ideas are welcomed by the central curriculum consultative committees, and the teacher who wishes to suggest innovations may well find himself coopted into a position whereby he can see some of his ideas adopted on a national scale. Efficient and effective lines of communication have been forged between all agencies concerned with the curriculum; the central authority does not seem to be remote from the teacher who can make use of a wide spectrum of aids for day-to-day school activities if he so wishes. H. M. Inspectors seem to have more influence on school programmes than in England.

A recent curriculum paper on 'Science for General Education' provides a unique model for curriculum developers in which curriculum objectives, school-based learning experiences, and appraisal areas are welded into a coherent pattern of reform which can be readily understood at all levels of curriculum implimentation. The new Certificate of Sixth Year Studies is now taken by students in the year preceding their transition to some form of tertiary education. It provides the more able pupils with the opportunity for rewarding long-term private study with less dependence on the teacher, the aim being to produce better students with enhanced individual initiative and reliability, rather than merely better informed students. To this extent it is in contrast to many of the Advanced Level courses in England and Wales.

However, within this atmosphere of change, attempts are being made to evaluate innovations as far as is possible, and future work of the central consultative committee will pay more attention to this and the curriculum as a whole. Developments in Scotland are rightly becoming more widely recognised.

It will be apparent from the foregoing description that there is tremendous activity along most frontiers of the school curriculum in Britain. But does this activity necessarily imply educational progress? How effective are the newer curricula? Are British curriculum developers working to some kind of strategy or developmental blueprint? Is there any gulf between intent and actual practice in the schools? Subsequent discussion will centre upon these vital issues which have, in principle, cross-national and cross-cultural relevance.

Much of the curriculum development movement owes its impetus to the urge to *modernise* the content of courses after some 30 or more years of relative stagnation. Although many of the newer programmes have taken cognisance of contemporary insights into the learning process, subject specialists (including teachers who have viewed their role in these restricted terms), rather than educators, have been at the helm of many developments, having the underlying belief that to revamp content will cure the curriculum's ills. Subject groups have therefore tended to work in isolation with little reference to each other's programmes; the lack of complementary sequence planning in the Nuffield 11–16 physics and chemistry courses is one example of this. An overall curriculum policy, particularly at the secondary level, is indeed a long way off.

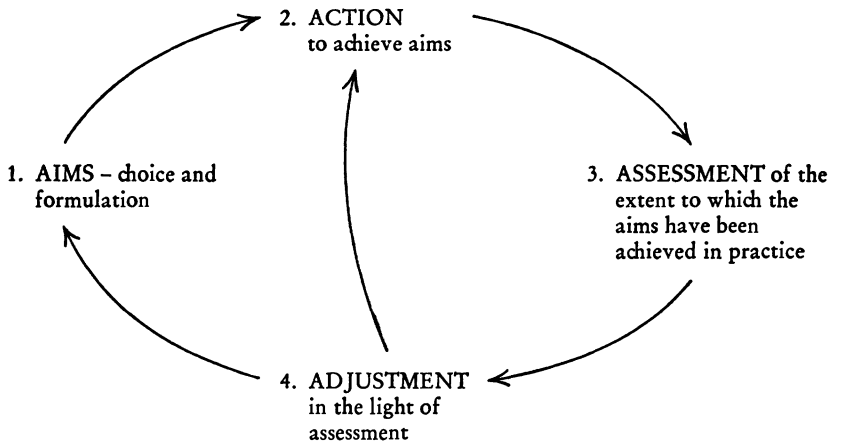
Whilst reforms are in general to be welcomed they do present significant problems, not the least of which is the absence of an adequate theory and technology of curriculum development which could form the basis for efficient action in the school and the classroom. At present we have insufficient control over the process of curriculum reform. The actual implementation of new programmes has tended to become subject to the influence of persuasive innovators with concomitant emotionally charged discussions, prestige and bandwagon effects. If the curriculum is viewed as 'all those learning experiences for pupils which are planned and guided by the school' it becomes the tactical centre of the educational enterprise and we must accordingly seek outline strategies for its efficient development. As in economics, curriculum reforms arising from market forces alone need to be subject to planning if they are to be cumulatively beneficial.

THE NATURE OF CURRICULUM CHANGE

The curriculum must always be subject to change in order to keep in harmony with its living environment of pupils, knowledge and society; in the respect that it must either 'evolve or die' it is akin to a biological organism – ever ready to adapt to changing conditions. In order to facilitate its healthy evolution through planning and decision-making it is helpful to identify the essential components

of the curriculum. Kerr, and to a lesser extent Taylor, almost alone of British educators have sought to analyse the curriculum in this way. The ideas of Tyler, Bloom, Taba and Bruner from the United States have been a notable influence.

Curricular activity may essentially be viewed as a four-component system as in the following model: –



A simplified model for curriculum development

The curriculum as 'the school-planned learning experiences' is embodied in unit 2 of this model, but it is inseparable from the other components. If education is viewed as a varied and cooperative human undertaking for the furtherance of human purposes then we must to some extent view the curriculum and its development as a social system. The cyclic model incorporates social systems ideas in so far as components 1 to 3 respectively represent the planning, doing and evaluating phases of social development, seen for example in government, industrial production and medicine. These, together with adjustment arising from the results of experience, provide for continuing productive feedback from a dynamic continuing spiral in time and space. Curriculum development is therefore a pervasive activity which should be sensitive to time and place; for any country it must therefore be closely associated with educational planning – a factor already appreciated by UNESCO but by few individual nations. Efficient curriculum reform cannot be carried out in the absence of clearly formulated national goals. Neglect of these leads to difficulties over establishing priorities, to frustrations and misunderstandings between the agents of change and to piecemeal and incoherent innovation.

Curriculum development projects in Britain have usually followed a now familiar pattern of team effort:

I A panel of teachers and others have surveyed the chosen area of the curriculum, drawing on all available sources. With radical rethinking if necessary, they have produced draft materials for use in a few selected schools. Complementary examinations, if required, have also been arranged. This may be termed the *inventive* phase.

II After the briefing of volunteer teachers, materials have been subject to trial in a few schools – the phase of *limited implementation.*

III As a result of opinions fed back by the trial teachers to the innovating panel, materials have been redrafted – the *modification* phase.

IV Finally, the new materials have been published and the new ideas diffused by appropriate articles and in-service training courses for other teachers. This is the *dissemination* phase.

In this kind of pattern there is justified cause for concern on three counts. Firstly, in several projects at phase I insufficient care has been taken in drawing up a reasonably precise statement of curriculum objectives, i.e. those changes in pupil behaviour which the new curricula are intended to bring about. The questions of 'what' and 'how' to teach in any situation cannot be properly decided until the prior question of 'why' has been answered as far as is possible; well-designed curriculum bricks are of little use unless we know the kind of structure we intend to build up for the pupil both within individual disciplines and the total curriculum. There are of course very real difficulties in identifying objectives and of translating them into practice, but these are minimal compared to the problems which the absence of such a guide creates.

Secondly, within phases II and III further room needs to be made for a more rigorous evaluation of the new curricula. Curriculum evaluation is not merely concerned with assessing pupils at the end of their courses in the form of terminal examinations; its function is also to diagnose inadequacies of the component parts of courses as they are developed so that modifications, while courses are still fluid, are more effective. Evaluation involves data collection for decision-making not, as some curriculum workers tend to believe, for trouble-making, but within education we have been more reticent to evaluate properly than in many other social systems. It is easier to form opinions than to make judgments as a result of evidence; yet personal impressions are not likely to be good enough for twentieth century education. It should also be remembered that evaluation is not possible if curriculum objectives have been inadequately specified. Curriculum objectives should in essence represent testable curriculum hypotheses, and the inclusion of evaluation specialists in curriculum teams might ensure that this area in the development cycle receives adequate attention.

Finally concern must be expressed about the danger of failing to set up effective mechanisms whereby the 'new' curricula of today are continuously appraised and modified so that they do not ossify to become the 'old' curricula of tomorrow. Disciplines change in terms of content and insight, as do our educational objectives; the spiral development must continue.

THE IMPLEMENTATION OF NEW CURRICULA

It is relatively easy in the British context to gather together a panel of keen teachers who have a common purpose, and to involve them actively in curriculum innovation. It is much more difficult to ensure that the innovations – the new curriculum materials which are produced – are adequately studied and used by other teachers. We have tended to assume, rather naively, that if the need for change was recognised by teachers, then they would be readily prepared to discard their old methods and materials in favour of the new. In this complex sociological question we need to know not only about a teacher's degree of *willingness* to change but also about his *ability* to change; in addition, the influence of factors external to the teacher, whether associated with economics (class conditions, apparatus, facilities available, etc.) or with politics (central policy fluctuations), upon course implementation is likely to be significant.

In Britain we are only slowly realising that the retraining of experienced teachers is a crucial component in curriculum development. Yet to attend a course of retraining at any stage in a professional career is not a statutory part of a teacher's duty. Not surprisingly in a relatively conservative profession, many teachers can opt out of reforms or only recalcitrantly modify the content of their programmes when external examination syllabuses undergo piecemeal change.

However, we rightly believe in the principle that teachers are more than purveyors of other people's bright ideas and that all need to be innovators in themselves. The Schools Council does not exist, for example, to impose a new curriculum on the schools but to provide a supporting service for the teacher in answer to the demands for an increased rate of progress. Many British educators have sought to emphasise that curriculum reform depends upon the total active involvement of all teachers, since in diffusing new ideas, development teams need to convey not only the substance of a new course, but also the spirit in which it needs to be taught. The *quality* of learning is primarily determined by the individual teacher. We have ample evidence of extensive creative consequences arising from pursuing the principle of teacher involvement, and the new local teachers' centres are intended to make this involvement more widely available. These centres are beginning to provide a focus for local curriculum development work and in-service retraining; teachers work in small groups, pooling not only

their talents but their experiences from their different schools. Professional associations also continue to play their part as 'ginger' groups, and the initial teacher training institutions have more recently become a potent influence on the implementation of curricular reforms.

FREEDOM AND TEACHER QUALITY

The British teacher's relative freedom giving him the right to decide what and how to teach brings with it a heavy responsibility, and despite the continuing pleas for involvement there must be some uncertainty as to whether the profession contains a high enough proportion of able and adaptable personnel to meet the increasing demands being made upon the schools at the present time. The shortage of good teachers, especially in mathematics and science, may well force us to adopt more of a continental type of approach with increased centralisation and integration of resources and effort. Recent national curriculum developments in England may be a first move towards a centralisation more akin perhaps to Scotland than to, for example, France. These courses do provide at their lowest level, reliable materials for indifferent teachers.

However, the British educator cannot but feel that the quality of mind and personal enthusiasm of the individual teacher are of paramount importance, and this is perhaps where a more uniform system could be at a disadvantage. But unless the nation can attract a larger proportion of our better minds into the teaching profession by appropriate incentives and even differentials, less freedom may be inevitable, and indeed, in the event of failure, desirable.

In the immediate future, in many areas, a period of consolidation is required after the significant upheavals of the past few years. There is also the continuing need to bear in mind the curriculum as a totality of experience so that we may provide more effectively a balanced intellectual education for all pupils, as well as giving them appropriate moral, social and vocational bases in order to take a rewarding place in a rapidly changing society. In the somewhat unique, even idiosyncratic, British mode of modification by the 'committee' process of compromise and partnership there are lessons for others who are inevitably faced with similar kinds of curriculum problems.

The reader is referred to the following works for more detailed information about particular curriculum development projects and references than it is appropriate to provide in this paper.

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