"Towards a Sound 'Foundation'"

A Consideration of a Possible Basis for Planning a Geography Curriculum for Slow Learners in Secondary Three and Four.

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ABBREVIATIONS USED IN THE TEXT

S3, S4 - Secondary three, secondary four

'O' grade - Scottish Certificate of Education Ordinary Grade

S.C.E. - Scottish Certificate of Examination

'O'level - General Certificate of Education, Ordinary Level

C.S.E. - Certificate of Secondary Education

S.E.D. - Scottish Education Department

C.C.C. - Consultative Committee on the Curriculum

C.E.S. - Centre for Educational Sociology, University of Edinburgh

I.Q. - Intelligence quotient

D.E.S. - Department of Education and Science

TOWARDS A SOUND 'FOUNDATION'

A CONSIDERATION OF A POSSIBLE BASIS FOR PLANNING A GEOGRAPHY CURRICULUM FOR SLOW LEARNERS IN SECONDARY 3 AND 4

1. INTRODUCTION:

Curriculum development in Scottish school geography could be accused of being rather piecemeal in nature, of lacking an overall perspective, of placing an undue emphasis on content and of underplaying the contribution geography can make to the general education of pupils. Despite the considerable effort expended in meeting the challenge of ROSLA (Raising of the School Leaving Age), this surge of curriculum development more often than not subsided into a form of curriculum 'tinkering', and Scottish geography teachers still accuse themselves of never really 'grasping the nettle' of the curricular needs of the slow learner.

This dissertation will attempt to outline a possible basis (or foundation) for decisions affecting the geography curriculum of an adolescent slow learner in S3 and S4. By way of introduction it will explore the need for a Foundation Course, the advantages and disadvantages of choosing a multi-disciplinary as opposed to a subject approach, and the distinctive curricular contribution of geography. The main emphasis of the theoretical part of this dissertation will however fall on a discussion, not so much of subject aims, but of aims arising from the characteristics and problems of the slow learners themselves, from how they learn and are motivated.

It is not always easy to plan learning outcomes to match a theoretical framework - assuming the latter is explicit - but in this dissertation an attempt is made to throw a rope ladder across this pedagogic breach. It would be an impossibly long and inappropriate task to map out a complete Foundation geography course in a dissertation such as this but, by the use of an exemplar, it is hoped superficiality can be avoided and that some principles can be established which could be generalised to other areas in the subject. It is no more than one small attempt to face up to, as squarely as possible, the massive curriculum planning challenge facing Scottish secondary teachers in the 1980's.

It would be simplistic to assume that curriculum planning alone can provide a panacea. Some teacher qualities, like enthusiasm and emotional committment can never be planned for. But, given these qualities, teachers of slow learners have a better chance of success for their pupils, however that success is measured, if their curricular decisions have been made on sound foundations.

2. THE NEED FOR A FOUNDATION COURSE

"I did not like my last year at school at all. Those who were doing a non-certificate course were asked to sit in a class with a book opened at any page at all and pretend to be reading in case the head-master or someone like that would come into the room. If you were not interested in O-levels then the teachers couldn't be bothered with you." [1]

This simple statement, not untypical of the many made by slow learners in the 1977 survey of non-certificate school leavers conducted by Edinburgh University's Centre for Educational Sociology, is a damning indictment of Scottish teachers in general and the courses they offer slow learners in particular. Could the recommendations of the Munn[2] and Dunning[3] Committees go some way towards satisfying the aspirations of these pupils? The Dunning Report (1977) recommended the provision of three overlapping syllabus levels (Foundation, General and Credit) for Scottish pupils in S3 and S4. These syllabuses, while involving some internal, school-based construction and assesment, would form the basis of a national system of awards involving all pupils. These recommendations reflect the continuing trend in Scottish education since the war, of bringing more and more pupils within reach of national certification.

Pupils embarking on a Foundation course would be those, like the girl quoted above, at present largely "outwith the present (S.C.E.) system of awards,"[4] though many infact attend 'O' grade classes and are either not presented for the examination or gain no award. The 'O' grade, at its inception regarded as a target

suitable for the top 30% of S4 pupils, has, through the banding of the award, become an inappropriate target for many pupils. In practice, "for the majority of pupils in S4 the S.C.E. 'O' grade is a measure of failure."[5] The practice of allowing or encouraging slow learners to incorporate one or two 'O' grade subjects in an otherwise non-certificate course, to provide a facade of worthwhileness, has met with little success. C.E.S., in their 1975/76 survey of 'O' grade leavers found that the failure rate was in inverse proportion to the number of subjects attempted. (From a sample of 649 pupils sitting only one 'O' grade, more than 75% of them failed it: i.e. gained less than a C award).[6]

The inappropriateness of the courses offered to slow-learners, while commented upon by writers like Gethins (et al)[7] - they mention the "neglect by most Scottish educators of the needs of the non-academic pupil" - is not exclusively a Scottish problem. In England, for example, a Schools Council Working Party found that curricular provision for slow learners left much to be desired.[8]

How does this apparent neglect affect the attitudes of slow learners to school? The C.E.S. survey of 70% of all Scottish non-certificate school-leavers in 1977 found truanting to be symptomatic of their dissatisfaction with school. Serious truanting, for days or weeks at a time, reached almost endemic proportions (29%) among this group of pupils. From their questionnaire responses, most truanting was apparently found to be related to in-school experiences (school-work, provision, and to a lesser extent pupil-teacher relationships) than to out-of-school factors such as illness, family responsibility, friends truanting, job-hunting or such like.

On any day however, for each truant, there are perhaps 2-3 non truants, some passively accepting, some openly disruptive; probably the majority harbouring negative feelings towards schoolwork and its relevance to their lives.

In an article entitled "They may not love us more, but they hate us less" Ballantyne and Taylor use the Scottish Educational Data Archive to show that, on a range of issues such as the usefulness of the pupils' last year at school, "leavers from C.S.E. schools portrayed their school experience in a more favourable (or less unfavourable) light than did (non-certificate) leavers from other schools."[9] The combination of careful curriculum design and the status accorded by a national examination appears in this case to have a marked influence on pupil attitudes. It seems reasonable to assume that the implementation of the Munn and Dunning recommendations could go a long way in providing appropriate courses for slow learners and hence alleviate their sense of dissatisfaction and frustration.

How have the proposals been amended since their publication in 1977, in relation to the slow learner? Certification of the Foundation Level was not accepted by the Government of that time, but, after much protestation by the teaching profession, was re-instated in the present Government's Development programme. The Dunning proposal of all syllabus levels having internal and external syllabus components and examinations has been watered down considerably, with internal syllabus construction and assessment confined to Foundation level only, at least initially.[10] This decision could adversely affect the status accorded to the Foundation Certificate and hence the motivation of pupils attempting

it.

The Government's Development Programme also portrays a tendency towards curriculum tinkering as opposed to curriculum planning; referring to the design of General and Credit courses it states that "there is general agreement that this process can be begun by modifying existing O grade syllabuses...."[11] If this principle of modification were extended to cover the already diluted Foundation level it would represent a great opportunity lost.

3. A MULTI-DISCIPLINARY OR SUBJECT APPROACH TO THE SOCIAL SCIENCES?

It could be argued that the demarcation of subject disciplines erects artificial barriers within the social sciences and that this approach is geared more to the preferences of teachers than to the needs of the slow learner. However, just how far the integration of a pupil's knowledge can be furthered by curricular design is open to question. There may be many factors involved.

The social sciences at school level have been somewhat late in shaking off their descriptive image. Increasingly their paths have diverged; history is now more concerned with the weighing of evidence, the reconstruction of events and decisions, geography uses observation, measurement and hypothesis testing, while economics relies on mathematical models. It seems reasonable to suggest that pupils require initiation into the different ways of knowing and validating knowledge before they could arrive at an integrative view of knowledge. Geography could be said to be an integrated subject by its very nature, so why not teach it within a framework of integrated social subjects? This seems a plausible argument but this eclecticism could just as validly be an argument for the total integration of the curriculum, since geography has rich links with the natural sciences, earth sciences, with art and literature as well as with the social sciences.

The social sciences each have a distinct conceptual framework, reflecting the structures of the subjects. One of the strongest arguments for the retention of the subject disciplines is that they allow the systematic building of a framework of concepts. If courses were planned around a series of integrated topics would the chance of developing a framework of concepts be little more than fortuitous? The criteria for inclusion of learning

materials in an integrated topic could very easily become 'which concepts or topics lend themselves to this approach?' rather than 'which concepts should we progressively introduce, refine and relate to previous learning?' The use of an integrated framework exclusively could also distort the balance of the contributing subjects; for example, in the case of geography, the contribution of physical geography would be outweighed by that of social geography.

Some would argue for an integrated approach because it avoids the disciplined development of concepts, a process thought too difficult for all but the most 'able' of pupils. This seems to be 'taking the easy way out' since concepts would presumably be replaced with unrelated facts. Concepts need not inherently be difficult. But attention must be given to their level and sequence of introduction.

An oft-quoted argument in favour of a multi-disciplinary or integrated approach is that too much time is given in subject disciplines to laying foundations and too little time to using these foundations to explore the more relevant, interesting superstructures of the subjects. But this is a criticism of form rather than substance rather similar to the argument which persuades some teachers to embrace an integrated approach because it allows them to make a break from the traditional forms of teaching and learning in which the subject disciplines can sometimes be steeped. Although there is,no doubt, quite a measure of truth in these criticisms, neither is a logical necessity. Both can be overcome by attention to decisions on curriculum and methods.

The multi-disciplinary approach does seem more able than the subject discipline approach to accommodate an input from the 'newer' social sciences as yet not represented on the typical school timetable, for example sociology. If each were introduced as a discreet subject, the curriculum could become overloaded. Although some aspects of contemporary society can be infused into the existing subjects, there is perhaps room for some multi-disciplinary work, but in conjunction with the subject disciplines, not as a substitute for them.

It would however be unfair to assume that the traditional subject disciplines are of little relevance to present day issues and problems of society. In geography, for example, the study of the applied branch of the subject should be an important part of any course, for example environmental quality, land-use planning, indices of social well-being in large cities, hazard potential of building sites, soil conservation and such like.

The disciplined approach is sometimes accused of being too subject-centred, of paying too little attention to the 'interests' of learners. However, if one ordered a curriculum around pupil interest - which in the case of slow learners can be a transitory phenomenon - the extra motivation gained might be at the expense of rather large gaps in the pupils' experience. Continuity and the systematic introduction to concepts could also become subordinated to the criterion of interest. And what of future interests, and the gradual awakening of interest through awareness? Pupil interest can be a useful motive to harness however, even subversively as L.W. Rust suggests, "interesting activities can be incorporated with the content to be learned that has neutral

or negative interest."[12]

In reality the two appraoches need not oppose one another, they can be seen as complementary. However, if at some stage or stages in a pupil's career only one approach is available, it would seem on balance that the systematic nature of the subject approach would be the more appropriate one. This is not to say that subject disciplines should be considered as watertight units. There is a need, especially in courses for slow learners, for overall planning, for dovetailing of courses and of aims, for finding ways of helping pupils transfer learning from one subject to another and of relating in-school learning to real-life situations.

To what extent has the official view - the view of the Scottish Education Department - on this matter been consistent over the years since the 1947 Advisory Council Report? This group of educationists advising the Secretary of State bemoaned what they considered the uncritical over-crowding of the curriculum with discreet subjects: "The very conception of 'subjects' in the conventional sense....should not....be accepted at the outset as fundamental."[13] They suggested that, especially in the case of the social sciences[14] and the natural sciences,[15] for the majority of pupils integrated work might be more relevant and worthwhile. (This view, though clearly stated, was not so clearly substantiated. It should perhaps also be considered in the context of a school climate more academic in nature than today).

The S.E.D. reply came four years later, in 1951.[16] It gave a little qualified support to the idea of integrated science but cited practical difficulties as the reason for not recommending an integrated approach to the social sciences.

By 1955, however, the S.E.D. appeared to have more confidence in their convictions. In a memorandum on Junior Secondary Education (and hence involving the education of slow learners), referring to the idea of an integrated approach, these words occur: "Drastic action of this kind is neither necessary nor wise.....there are still cogent reasons for retaining the subjects themselves." [17] The reasons however are not put forward. (Is it too unworthy a thought that the main reason may have been the need to maintain the facade of 'parity of esteem' between the senior and junior secondary schools?)

The superiority of the subject discipline approach was apparantly assumed by 1959 as there was no mention of any alternative approach in the Working Paper on the curriculum produced in that year.[18] The official support for the subject approach is re-iterated however in the 1961 Annual Report of S.E.D.: "There are...strong grounds for the inclusion of each of those (traditional) subjects at some stage in the course."[19] (The course referred to was the Junior Secondary course). Yet once more the S.E.D. declined to give their reasons for this strongly-held belief.

The rapid growth in the 'O' grade from 1962 onwards helped to underline the pre-eminence of the subject disciplines. Non-Certificate courses were often just watered-

down academic courses.

It is difficult to trace the origins of the upsurge in official and school-based interest in the multi-disciplinary approach which occurred during the 1970's. Perhaps it was partly an offshoot from the growth of such ideas in the primary schools. Perhaps it was due to an increasing awareness of the 'child-centred' view of education. Perhaps it was R.O.S.L.A. that threw the problems of the slow learner into even sharper perspective. Perhaps it was due to the creation of the quasi-governmental body, the C.C.C., and its structures for advice-giving.

This latter body produced, through its Central Committee on Social Subjects, (but published by the S.E.D.) an advisory bulletin on "Social Subjects for young School leavers" in 1973.[20] In it they gave unqualified support to the idea of a multi-disciplinary approach to the social subjects, but sadly did not put forward the grounds on which they made their claim. By 1976 however this same committee of the S.E.D. came out strongly in favour of a subject discipline approach, stressing the need to develop a conceptual framework as their main reason. This Curriculum Paper[21] gave what might be assessed as lukewarm approval to the idea of an integrated approach with slow learners in S3 and S4, but not as an alternative to the subject approach. On balance this appears to be the first time the issues involved were given 'a good airing' and a point of view supported by careful argument.

Two years later the Munn Report appeared to endorse the primacy of the subject disciplines; "the basic unit of study should remain the individual subject".[22]

It stressed the need for an enlightened approach to subject teaching with emphasis on skill development, and suggested that space should be found in the curriculum for some multi-disciplinary work on contemporary society. The Munn Report was followed by an S.E.D. Feasibility Study undertaken by the Inspectorate. Their reasons for retaining the subject disciplines were almost wholly pragmatic.[23] The Munn recommendations on this matter do not appear to have suffered the same degree of pruning as the Dunning proposals mentioned earlier. In the most recent Government publication[24] on the matter, while most attention is given to the development and piloting of subject courses, the intention of producing at least one multi-disciplinary Foundation course is restated.

4. THE CURRICULAR CONTRIBUTION OF THE SOCIAL SCIENCES IN GENERAL, AND OF GEOGRAPHY IN PARTICULAR

The delineation of the distinctive curricular contribution of a subject or group of subjects is a necessary precursor to the construction of educational aims relevant to that subject or subjects. Such subject aims, however, need to be viewed in the context of the contribution a subject can make to the general educational experience of pupils particularly in the area of personal and social skills. The social sciences, it could be argued, have a large contribution to make to such general aims because of the social nature of their content.

In all the social sciences the main focus is people, their interactions with each other and with their environment. A study of the social sciences can help develop, for example, an historical or a spatial awareness, an understanding of the essential continuity between man and his environment which in turn can help explain the many differences which occur between peoples, and contribute to the rational acceptance of cultural diversity and human difference. The implicit aim in this case is to help engender empathy with other people(s), and a concern for the social and physical environment.

The social sciences investigate, albeit in different ways, the fragile interdependence of all societies on one another - one planet, one environment, one economic resource system, one human society - and the need for co-operation between people. They all use a variety of scales of thinking

(micro, meso, macro) to bring local, regional and world problems into appropriate frames of reference. They involve dynamic concepts of continuity and of change and development in human societies, concepts which assume more and more importance in an ever more rapidly changing world.

Perhaps one of their most important contributions is the way in which they help pupils interpret and classify areas of everyday experience, what they read or see or feel. The social subjects link out-of-school learning to classroom learning; their focus is often in the applied field, concerned with tackling problems facing society, "influencing policy-makers and improving the quality of life."[25]

Geography is only one of many subjects which embody these aims. What then can it distinctively contribute to a pupil's curriculum, especially the curriculum of the slow learner? Geography has at least four traditions, - man-land, earth science, regional studies and spatial analysis - and of these perhaps the man-land tradition has the most to offer slow learners. It can help pupils relate to both the physical and social environments through a study of man's interactions within these environments. Geography is perhaps the most immediate, real or 'concrete' of the social subjects, rich in tangible, visible concepts, and the man-land area of geographic study is perhaps the part with the most relevance to the reality we perceive round about us. Such a study helps develop a balanced perspective on one's own situation, and hopefully, a willingness to consider different points of view and ways of life.

However, it might not be wise to exclude some strands from the other three traditions. A knowledge and understanding of simple spatial relationships, so succintly displayed in cartographic form, would seem to be a worthwhile and necessary aim. Maps, such a rich source of information, are the prose and poetry of the geographer. Their functional value cannot detract from their equally important value as a source of enjoyment in one's leisure time.

The man-land tradition in geography builds on the more fundamental earth science tradition. Morgan writes "The ability to understand the landscape and its evolution is one of the major benefits to be derived from geography as part of a general education..."[26] and it would be difficult to learn concepts appropriate to many applied aspects of the subject, for example the impact of natural disasters, or environmental quality without at least some awareness of the physical processes at work.

The fourth tradition, that of regional studies presents a problem in that it requires a measure of synthesis perhaps beyond the abilities of many slow learners, and yet the slow learner is the pupil who more than most has difficulty in perceiving overall similarities and contrasts. Some attempt to provide a simple regional framework to knowledge and relationships introduced might be a distinctive geographic aim worth emphasising.

5. INTEGRATION RE-VISITED

Geography is not really characterised by a theoretical position, nor a certain kind of method, nor even a way of seeking information or solving problems. Nor is it characterised solely by the kinds of problems or phenomena it studies. Both its methods of study and its areas of concern are very varied and often integrative. It is the most eclectic subject within the social sciences. Although it has a body of knowledge, a conceptual structure and a literature of its own, it draws heavily on, and builds bridges between many other subjects. An example of such a bridging effect can be found in landscape evaluation, with concepts linking geology and geomorphology to art and economics, not to mention cartography. It is integrative, yet disciplined in its approach.

There is a danger inherent in curriculum planning in geography, because of the 'catholicism' of the subject, of making the uncritical leap from aims to content without the intervening rigorous selection of concepts. (Both the Alternative 'O' and 'H' Grade syllabuses follow this pattern). The danger lies in the assumption implicit in this leap, namely that the pupil is as adroit as the mature subject specialist in handling concepts and in understanding relationships.[27] It tends to leave concept-building to chance.

The Munn Report, while endorsing the subject approach exhorts subject specialists to be outward-looking, and to give careful consideration to concepts and skills; ...."we urge that all subjects...should be looked on as resources for the development of conceptual understanding, social

competence, and a wide range of skills and emotional and moral attitudes."[28]

The consideration of the social subjects in general and geography in particular have led logically to the formation of aims for a potential Foundation course. The aims, so far at least, would not be significantly different from the aims of a General or Credit course; perhaps there would be a slight shift in emphasis between the four traditions outlined above.

If a Foundation course in geography is to avoid the pitfalls of its predecessors, aims generated from the accumulated information about the nature of the problems of the slow learner (and the resulting general educational aims of subjects) must surely be given at least as much weight as aims emanating from an analysis of the 'ways of knowing' inherent in subjects.

Who then is the slow learner, and what are his specific problems? Can these problems form the basis of useful, realistic aims?

6. CHARACTERISTICS AND PROBLEMS OF SLOW LEARNERS AND GENERAL AIMS RESULTING FROM SUCH A CONSIDERATION

The percentage of pupils estimated as potential Foundation candidates varies considerably between subjects, depending mainly on the percentage of the year cohort likely to take each subject. By extrapolating present S.C.E. statistics in their Feasibility Study[29], the Inspectorate estimated that approximately 13% of a year cohort would be likely to complete a Foundation level course in geography. This 13% would be approximately equivalent to all S4 geography pupils below the 30th% ile, the so-called less-able, slow learners, modified, least able, remedial, least academic or non-academic pupils. ('Slow learner' seem to have slighty less finality about it that the other labels). Their problems are often attributed a homogeneity which in reality is missing, for example the C.C.C. in their most recent curricular guidelines on social subjects for the 'least academic' pupils in S3 and S4 states: "In practical terms, least academic pupils may be identified as those who have an I.Q. below 85 or a reading age below 9 years. They will normally form the bottom 10-15% of a year group in a range of school subjects..."[30]. Verbal reasoning quotients may be useful in individual cases but can be counter-productive if used without knowledge of their validity and reliability. Even statistics on reading age can be misleading as many of these children lack the motivation to read for a test, even the extrinsic motive of pleasing the teacher.

However, despite their heterogeneity, it is reasonable to say that slow learners generally lack intellectual

capacity. They may have poor observation and discrimination abilities. They may have difficulty acquiring insight, in relating learning (both in terms of out-of-school experience to school tasks, and between tasks in school) and in dealing with abstractions. Many have poor long-term memory, most likely caused by the difficulty they often experience in concept forming and hence structuring learning experience. The C.C.C. report mentioned above describes this problem as "an inherent inability to process information at the required level."[31] Most have not developed the necessary mental dexterity to perceive relationships or interacting factors, nor the ability to generalise and hence form concepts.

Slow learners most likely have language, reading and general communication problems. Almost all children can read in a decoding sense at least but many slow learners lack the motivation to read. They possess few if any higher-order reading skills, hence comprehension is limited. Their powers of listening, of concentrating their attention, is often very short, their language so restricted as to impoverish their ideas, and their writing affected by a near mental and physical paralysis; they may have difficulty knowing what to write, how to express it, and usually they get little satisfaction from the finished product because of their poorly co-ordinated hand-writing.

Simple computation too appears to be beyond the abilities of many slow learners.

In the survey of 70% of all Scottish non-certificate school-leavers undertaken in 1977, C.E.S. found that "conservatively estimated, at least a third of non-

certificate leavers would have liked extra time learning to read better. Four out of ten would have liked extra time learning to write better and six out of ten learning to do sums better."[32] (The 29% non-respondents may have had more severe difficulties).

Brennan[33] suggests there are two broad categories of slow learners to be found in a normal - as opposed to a 'special' - school, namely those requiring a compensatory curriculum and those requiring remedial attention. The former group, mainly the result of an unstimulating environment, should profit from some withdrawal time from normal classes for enrichment experiences. (But would not such withdrawal of adolescents merely compound the problem further by the feeling of 'difference' which it can engender?) Brennan maintains that this group make up the majority of slow learners. In his study of a sample of approximately 30,000 slow learners in 135 Local Education Authorities in England and Wales, 60% of homes were considered as lacking intellectual stimulus and 50% as lacking a regular routine. This information, however, provided by the schools, is of a fairly subjective nature. How do pupils in this category manifest their problems in the non-cognitive sphere? They are frequently erratic attenders, many of their learning problems perhaps stemming from the lack of continuity in the learning process even at primary school, with the resulting superstructure of learning resting on very shaky foundations. They almost inevitably display lack of intrinsic motivation; many appear irresponsible and immature; some allow their frustration to fester and burst

into anger, and reject school as an alien world bent on imprisoning them until they can escape into the 'real' world at sixteen. Many can't cope with their own feelings, can neither understand them, express them nor control them.

There is a danger in suggesting that pupil aggression or passive disinterest in school is a necessary by-product of a 'difficult' home background. Lack of success at school can create a vicious circle for some slow learners, a vicious circle they can only break temporarily by bravado. Hargreaves, in his study of the social relationships in an English Secondary Modern School argues that "the belief that children are 'difficult' in school because they come from 'difficult' homes is a convenient over-simplification."[34]

Brennan's other major category of pupils are those requiring specific remedial help. They are possibly not only more difficult to recognise but also to provide for, as their problems are often so difficult to determine and so varied. These pupils may display, in many instances, normal intellectual potential; they can think; on the surface they appear to be coping. Their parents, unlike the first category, are often supportive and concerned and conditions at home seem conducive to learning. They are often surprisingly stable emotionally and have friends. But they fail to learn at an acceptable rate. Work on their specific learning disabilities, the manifestation, diagnosis and treatment is still at an embryonic stage, but it seems likely that pupils in this category will require remedial help on a one-to-one basis or in very small groups. "How secondary school subject staff can develop the insights and strategies necessary to

assist pupils with special learning difficulties is a professional problem which will require pre-service and in-service attention."[35] The 1978 progress report prepared by the Scottish Inspectorate on "The Education of Pupils with Learning Difficulties in Primary and Secondary Schools in Scotland"[36] states that the class teacher will require considerable help from the remedial staff (whose role should change from teacher of slow learners to consultant, whose knowledge and skills subject teachers could draw on.)

Teachers will require a lot of training even to recognise, far less deal appropriately with, these seemingly internal learning disabilities such as perceptual disorders, hand-eye co-ordination problems, inability to classify objects, confused thought processes, specific language problems, specific problems with written, graphic or number work, and memory defects. Individual pupils may suffer frome one such problem, or from a range of interacting problems. They may suffer from various problems at different degrees. Only one thing is sure; there will be no quick and easy solution to ensuring that all slow learners have a real opportunity to realise their potential.

It seems likely that this second category of pupils (with specific learning difficulties) would be smaller than the first category of slow learners. At present they tend either to go undetected, confused and embarrassed by their seemingly personal problem, or are given general remedial attention along with pupils with quite different problems.

Despite the heterogeneity of problems in the cognitive field, most slow learners have four things in common. Due to their past history of failure they have come to accept failure, almost to expect it. Their teachers too can fall into this trap, as Hargreaves suggests: "The result is that they (the teachers) begin to expect little of their pupils, who adapt to this reduced expectation with a lowered level of aspiration. This is one of the roots of progressive retardation."[37] Almost all slow learners also experience a feeling of frustration (which comes through so eloquently in "Pupil vioces" compiled by C.E.S.)[38], and they fear ridicule. The fourth, and potentially most disastrous common feature of slow learners is the extent to which their experience of education has sapped their self-confidence, their feeling of self-worth, which in itself is a demotivator of considerable proportions. Edward Murray writes "...to threaten a man's self-esteem is to threaten his expectations that he is a worthwhile person...."[39] Derek Green[40] mentions the work of Backman and Secord in this field[41]. They found a positive correlation between high self-regard and academic success and that changes in self-concept through time are related to academic performance. Correlation in itself does not infer causation, but it is hardly a surprising revelation.

In a book, not on psychology but on the politics of educational change, Kogan ranks the need to develop a pupil's sense of self-esteem very highly when he says it is "a prime purpose of education to help a pupil to develop a sense of his own worth. This becomes particularly important in the middle years of secondary education when adolescence causes a surge of both optimism and uncertainty."[42]

Do these problems simply disappear on leaving school or do they form a burden which must be carried into all the areas of post-school experience? In his survey Brennan sent questionnaires to the 135 Local Education Authority Career's offices serving the schools in his sample, 88% of whom responded. They were asked to rank the problems slow learners face in their employment experience in order of severity. (What of their unemployment experience one might ask?) Top of the list was the inability to concentrate or persevere, followed by lack of initiative in carrying out instructions. Communication problems were ranked third, oral comprehension problems fourth. (The inability to understand oral instructions was found to be more serious than dealing with written instructions. This is possibly because the former requires comprehension and memorising at the same time). The problem ranked fifth in severity overall, namely the inability to establish relationships with fellow workers, has repercussions on job satisfaction. Computation and reading problems were next in severity. Even problems which ranked as less serious, for example the inability to make decisions, and poor personal hygiene are an indictment on an educational system which has tipped its slow learners on to an employment scrap heap with few if any survival skills.

It would be easy to assume, as possibly many teachers do, that these problems are endemic if not inherent, and that there is little schools can do to change the situation. (Kelly, in his work with teachers in the U.S.A. repeatedly found that teachers put behavioural problems down to laziness. He employed a fairly novel method to dispel their belief that problem learners were inherently lazy. He suggested the teacher

try a non-motivational approach and observe the effect. Contrary to the teachers' expectations their 'lazy' pupils didn't just sit, but became much more animated. It proved to be an eye-opener for many teachers who found that their 'laziest' pupils could fill the time in the most novel ways.)[43]

In a working Paper on slow learners the Schools Council, using evidence from "further and adult education and from the experience of secondary schools successful at persuading slow learners to stay on for an extended education," rejected the view "that slow learners are not interested in ideas, that they cannot verbalise or handle abstractions, that they make choices through immediate satisfactions and are only interested in people or concrete situations."[44] Perhaps this is a safer assumption to use as a starting point than the assumption that these problems are inherently immutable.

The specific aims appropriate to the subject in question - geography - can now be seen in the wider context of educational aims generated from the apparent deficiencies suffered by the slow learner. Aims suggest values, and by asking 'how can learning geography contribute to the general education of slow learners?' one is adopting a particular standpoint based on a value-judgment balanced more towards the nature of the learner than to the nature of the subject. Aims form the first layer of a foundation for any educational course; they make explicit the criteria on which curricular decisions are made.

Slow learners need the security of a learning system in which there exists a uniformity of aims, which trancends subject or faculty level to permeate all the learning situations they encounter. It should be possible for a school staff to agree on a common set of explicit aims for slow learners, but it is doubtful if this co-ordinating effort gets enough attention in Scottish secondary schools.

While the aims outlined below could be relevant to the education of all children, perhaps the majority of pupils would have acquired many of the cognitive, affective and psycho-motor 'survival' skills which they embody before transferring from primary school and proficiency levels would vary considerably. It is not an exhaustive list - for example psycho-motor skills are given little attention - because it concentrates on those areas in which geography teaching could make a contribution.

The Munn Report emphasised the need to develop a pupil's skills, his social competence, his conceptual understanding and his emotional or moral awareness,[45] irrespective of his level of ability or rate of learning. Which skills, indirectly or directly affect one's level of social competence? Communication skills must surely be the most crucial in this area, especially those which develop oral confidence. In day to day social intercourse one is more likely to be let down by what one says or omits to say than by one's level of reading or writing.

Slow learners need to be trained <u>to listen</u>, to receive oral information and follow oral instructions. K.J. Weber in his "Practical Guide for Teaching the Adolescent Slower Learner"

says "by the time of their adolescence slower learners with their negative self-image and strong tendency to avoid or reject anything that is not immediately appealing, have usually become notoriously bad listeners."[46] There-in lies a practical problem, which is given some attention later.

To be able to discuss, to display at least a little oral fluency, is a distinctive feature of the socially competent, self-confident person. Yet slow learners are more apt to withdraw from or bludgeon their way through a discussion than listen and respond rationally. The Newsom Committee which reported on the education of the below average child stressed the importance of this skill;.... "the level at which people have learned to use it determines the level of their companionship and the level at which their life is lived."[47] In their progress report on the education of pupils with learning difficulties, the Scottish Inspectorate suggest that "discussion encourages pupils to talk through the learning stages, move deliberately from thought to thought, and in so doing face up to difficulties of content and language alike. For their part, discussion helps teachers to understand the problems and helps focus attention on possible solutions. In the process, valuable language learning for its own sake may occur."[48]

Other skills, such as logical, critical and creative thinking, though not directly related to communication skills, can improve the quality of the latter. They are also important cognitive skills in their own right. These aims affect not just the content but also the method of teaching. In some ways logical and critical thinking have a common link; they require an awareness, a respect for evidence and truth.

An exposure to logical reasoning should help pupils take note of false or poor reasoning and unjustified assumptions. Critical thought, although similar in some dimensions can also involve the use of value-judgments, the statement of a carefully considered viewpoint.

If the more 'able' of the human race are not the sole possessors of logical and critical faculties("out of the mouths of babes..." and so on) what of the creative, imaginative quality? Weber writes, "a flexible mind, capable of producing good ideas, is not the sole property of highly intelligent or educated people. Slower learners are often close-minded, inflexible and terribly narrow because everyone - including themselves - expects them to be that way. Creative thinking situations are a way out of that morass. A mind that learns to be flexible in problem-solving situations will apply that flexibility to other areas both in education and life."[49] Perhaps that is too much to hope for, but by training pupils to think in different modes it should at least be possible to help equip them to find better solutions to the problems they encounter. In many aspects of life one has to combine all three types of thinking. This level of synthesis may or may not be beyond the capabilities of most slow learners, but at least if they have had some training in the constituent parts, they may with further post-school maturation and experience achieve a blend which might raise even their own eyebrows.

Many subject teachers in secondary schools are content to look on the teaching of communication skills as the sole preserve of the English (and foreign language) department, especially in relation to reading and writing. Reading ability, however, is closely related to <u>language competence</u>, and language

competence is a major regulator of learning, hence of intrinsic interest to all teachers. Language competence is not only related closely to the ability to think but also to the ability to regulate one's behaviour. It is also necessary if pupils are to be able to read not just in a mechanical decoding manner, but to read well and with comprehension. Discussion is perhaps the most natural method of improving language competence.

In the survey of Scottish non-certificate school leavers already quoted[50] (viz 70% of the target population of all non-certificate school-leavers in Scotland in one session) 40% of this sample expressed that they would have liked extra time to have learned to write better. What is not clear from the survey is whether they meant legible neat handwriting, the content expressed or both. Both are surely worthwhile aims. Remedial experts have found that clear handwriting or typescript helps reinforce the decoding process of reading. Words written in block capitals or written indistinctly (for example lack of closure of letters or insufficient accentuation of the parts above or below the main level of the script) give no cues as to the syllable construction of the words.[51] Training in the skill of clear handwriting is therefore not time wasted; it is functional in that it reinforces reading.

Continuous writing was found to be almost non-existent in the curriculum of the slow learners studied by the Scottish Inspectorate.[52] They found most written work to be in the form of filling in blanks. Yet surely all pupils in secondary schools should be capable of linking up a few ideas in continuous writing? The targets need only be modest at first. One is however left wondering if those dissatisfied 40% would have been the very pupils to have scorned the idea of extra writing

practice while attending school, and yet with hindsight admit to its necessity. Subject teachers - perhaps especially social subject teachers - are in a good position to give that extra practice in writing in contexts relevant to their subjects, writing practice more unconscious than per se.

The growing sense of 'difference' slow learners experience is often triggered off by their early awareness of 'not being able to do sums well'.[53] (60% of the sample of non-certificate school-leavers expressed their inconfidence in computation). Geography teachers should surely aim to assist mathematicsteachers in reinforcing the skills of basic computation and graphicacy.

Some additional skills, perhaps more purely cognitive than social, which slow learners need help with could be labelled skills of inquiry. They need to develop an enquiring attitude, to be able to find information and to handle information. Skills such as observation, recording, classifying, discriminating can all be cultivated in field-work or even in simulated field-work situations. Finding information for example from directories, timetables, indexes, books, encyclopedias is a skill which requires training. The word 'training' is not meant to imply an isolated mechanical operation undertaken as a response to an order. Perhaps the best way of training pupils to have an inquiring attitude is for the teacher to display such an attitude. Imitation is a potent learning model as Ball suggests: "Teachers should be curious and enquiring if they want their students to be curious and enquiring."[54] In the same book D.C. Vidler states that the research findings generally support the view that curiousity "is positively related to I.Q. and creativity..."

and suggests it is possible "that the same conditions that favour curiousity would also tend to facilitate intellectual and creative performance."[55]

The Munn Report paid particular attention to skill development, but also emphasised conceptual understanding, the ability to generalise from particular situations and to perceive relationships. One could assert the superior cognitive value of concepts over unassociated knowledge, their capacity for refinement and extension or, like Lawton[56], their essentially pragmatic qualities. Lawton argues that a flexible workforce require an education which concentrates on principles and generalisations, rather than on specific facts and skills which can rapidly become obsolete. Richard Pring, too, argues for the primacy of conceptual development when he says that "to acquire concepts is to acquire the capacity to think; to acquire different kinds, as well as a wide range, of concepts is to acquire the power to think more effectively."[57] He broadens the meaning of the word 'concept' from that of unifying principle to include "knowing how one concept interconnects with others."[58] But how are slow learners to cope with concepts? Pring suggests conversation is vital to their acquisition;[59] perhaps rich concrete experience is also a valuable cornerstone, and positive help to relate learning. There will however be limits,albeit varying limits, in the level of analytic and abstract thought slow learners can achieve. (These aims, though apparantly discreet, in reality can be achieved in various combinations. For example a discussion about a programme watched on television might give scope for improving listening and discussing skills, for language and concept development, for the exercise of critical powers and

for relating out-of-school learning to in-school learning).

But what of knowledge , unfashionable, obsolescent knowledge? Surely concept-forming presupposes some knowledge? Surely social discourse, even polite conversation, depends on some knowledge? And surely slow-learners can feel a little more confidence in themselves if they know something? There has been a marked swing away from knowledge as an aim in geography teaching since the mid-1960's with increasing emphasis being given to understanding concepts and mastering skills, some of fairly dubious relevance to, and beyond the capabilities of, most adolescent slow learners. It would be a brave teacher who stated that their objective in a particular lesson was to ensure that pupils knew (as opposed to 'could find out') the regions of Scotland. The danger of having 'knowledge' as an objective is that it can too easily deteriorate into unassociated knowledge, the "Facts, facts, facts!" of Mr. Gradgrind in Dickens' "Hard Times" or the "Leeds, Brad-ford, Hal-ifax Hud-ders-field" meaningless chant of one's own early education. In geography teaching the move away from 'knowledge' to 'concepts' has been achieved partly at the expense of knowing 'place', (a kind of knowledge which varies in obsolescence rate depending on which part of the world or which phenomena one is studying). In a recent survey reported in the Times Educational Supplement the demise of the aim of knowing 'place' was mourned. "This latter (place) has now been so thoroughly lost that a majority of the teachers in our interview sample were moved to grouch 'now nobody seems to know where anything actually is in the world'".[60] No one, least of all the authors of that article, would wish a return to the 'capes and bays' era of geography teaching; the resolution of the problem would appear to lie in

the methods through which knowledge learning is encouraged. It may be that in some cases, rather than over-burden the slow learner with knowledge which he perceives as irrelevant, it may be sufficient to develop in him an awareness of that phenomenon which, if in later life he perceives such knowledge as valuable, he is half-way at least to acquiring it. With fewer and less extended concepts at his disposal than the more 'able'child, the slow learner cannot normally be expected to acquire the same width and depth to his knowledge. The choices made for him, by his teacher, are therefore all the more critical. Mental development however is more dynamic than this might suggest, in that since basic knowledge is the moulding clay of concepts, the more knowledge one possesses, the more concepts one can form or connect up; the more concepts, the greater the ability to acquire, store and retrieve knowledge. From the slow learners point of view knowledge can be intrinsically satisfying, it can act as a motivator, and it can be useful.

The Munn Report also saw the development of attitudes as very much part of the school's role, affective aims being as important as those aims intimately bound up with the development of the mind or intellect. The dividing line between cognitive and affective aims is often indistinct as many aims are affective in their ends but mainly cognitive in their means.

The aim to ensure that all pupils <u>experience success</u> and hence an enhanced feeling of self-worth cannot be made too explicit. Lack of this aim could endanger all other attempts to improve social competence; at a more serious level it could encourage pupils to substitute peer group values for societal and teacher values.[61] Such was the conclusion Hargreaves

arrived at after spending many months as a participant observer in a Secondary Modern school. Success for pupils largely depends on the choice of curricular objectives and teaching methods, and the use of some form of evaluation.

A further group of affective aims cluster around such personal attributes as feelings and values. It should be possible to aim to help pupils to understand their feelings, to express them and, where necessary, to control them. Too often this is left to the guidance teacher alone to attempt. To take this aim seriously means pupils need to be encouraged to see that feelings are natural, that they can be constructive or destructive, and to express their feelings in a controlled manner, thereby gaining a better understanding of themselves and greater facility in relating to other people. By learning to clarify their own values and to be tolerant of other peoples' values the pupils' social competence is potentially enhanced. Hargreaves suggests that pupil values are to a large degree shaped by their experience of school, the relationships they have with teachers, the approval or disapproval they receive, and the positive or negative expectations emitted by teachers.[62] To change negative attitudes takes time, patience, understanding, empathy and perhaps also the willingness to overlook the occasional behavioural abberation. As with most aims of an affective nature, or those involving moral issues, the most potent method, perhaps the only method, is by example.[63] If the teacher pays attention to justifying his value position, and shows interest in and tolerance towards the values of others, this is likely to be more effective than a direct attempt to moralise.

Through practice in self expression and self-control, and through tolerance to viewpoints differing from one's own it seems reasonable to assume some progress toward developing in pupils a sense of responsibility in preparation for adult life and a concern for others.

To aim to attempt to establish among pupils while at school good relationships and a collaborative spirit could help slow learners adapt more easily to the various social environments in which they will find themselves once they leave school. It would be frustrating and inappropriate to collaborate on all learning tasks, but teachers surely have a duty to harness rather than stifle the collaborative tendencies of pupils through various forms of group work.

It might also be appropriate to aim to instil in pupils an appreciation of the work of others and of nature. This aim links feeling to critical capacity and to value-judgments of an aesthetic as well as an affective nature. K.J. Weber rejects the view that the slow learner is inherently lacking in finer feelings when he asserts "They(slow learners) are as capable of sensitivity and emotion as any of their more successful colleagues. And very often their sensitivity is even greater, or at least more honest"[64] (presumably because they don't know what they are 'supposed' to feel).

Two further qualities which schools could explicity aim to foster among slow learners - as opposed to merely hope they develop - are to concentrate and persevere and to develop initiative and autonomy. Both depend on a curriculum geared to such ends. Whereas 'able' pupils are more apt to concentrate on learning which interests them, slow learners with their ceaseless search for something to hold their attention have

often/not developed the ability to maintain concentration.

This list of general aims, by no means exhaustive or definitive, could perhaps be useful as a discussion paper for a school staff meeting. From such a meeting it would undergo amendment, re-ordering and discarding but what could emerge would be some consensus among subject staff as to their priorities in teaching the slow learners in their charge. There is a need to make such aims, whatever they are, explicit to all staff, (perhaps to pupils and parents as well?) so that they can decide how best to contribute to their fulfilment by the decisions they make on content and methods.

In their Feasibility study the Inspectorate touched on, but didn't really 'spell out' what they considered would be appropriate aims for Foundation courses. They mentioned the need to provide interest, motivation and relevance for pupils and, in the interests of society, the need to make pupils more employable and promote confidence in basic standards.[65]

7. SLOW LEARNERS: A CONSIDERATION OF HOW THEY LEARN AND ARE MOTIVATED

Yet another influential set of factors must be brought to bear on any thinking about curricula for slow learners, namely those factors which help or hinder learning. Learning and Motivation, being specialist fields in psychology, cannot possibly be summarised adequately in a few lines. Consideration will be concentrated on those ideas which seem most pertinent to teaching methods. For the majority of slow learners whose problems are not of a highly specialised nature, learning would appear to present the same kinds of problems of understanding, conceptualizing and memorizing as it does to their more 'able' peers, but the problems are considerably amplified. To solve them will usually require more teacher help and intervention, more pruning and structuring of learning tasks.

In a learning situation the capacity of the individual learner, which varies with age and ability, is an important factor. In general the pace of learning will be slower, the amount learned proportionately reduced, and hence if learning time is to be put to optimum use, the careful selection of what is to be learned is critical. The easiest, and probably the most common criterion of selection is to rule out certain kinds of learning - for example analytic and evaluative processes or academic knowledge - and concentrate on lower levels of cognitive activity and practical knowledge. But words like non-academic are not used with the confidence that prevailed in the heyday of mental-testing and selection. Educationists are more cautious in their labels. A child may be more or less academic but no longer is there a visible

divide between academic and non-academic. Lawton argues that, although it would not be realistic to suggest that ability or intelligence do not matter in education, "What must remain a completely open question is the extent to which pupils who in the past have been regarded as of poor academic quality, or as suitable only for training, can profit from curricula which are intellectually much more demanding".....we have "no idea what the optimum level of performance would be for.... ...below average pupils in secondary schools."[66] The idea that these slow learners have (albeit limited) intellectual powers waiting to be tapped is the challenge to the teacher to find methods of teaching which allow slow learners to be introduced to more advanced avenues of learning, and to find out when individual pupils are able to cope with such learning.

However, some content would have to be ruled out as too difficult or too remote from the world of the pupil. Objectives would have to be trimmed to their leanest, their simplest level, and intermediate objectives supplied where necessary to provide realistic goals for the slow learner. It may be possible to work towards similar objectives with all pupils, but in the case of slow learners, at a slower pace, at a less complex level, and using different content and methods.

It is difficult to generalise without avoiding over-simplification, since in a group of slow learners there is little chance of homogeneity. The Inspectorate report, noting this reality, exhorted teachers to use more individualised and small-group learning strategies.[67]

Slow learners, like any group of learners, will also vary in their personal learning strategies. Some may learn more effectively if ideas are presented in an unembroidered

theoretical manner, while others may find a descriptive approach more meaningful. The use of individualised teaching strategies, the provision of some choice in learning task and the chance to relearn and reinforce learning will all help the slow learner more than a steady diet of 'take it or leave it' whole-class teaching.

The heterogeneity of slow learners tends to extend well beyond that due to their age and ability; each has a personal history which can affect current relationships. It only takes a negative attitude from one pupil spilling out of his individual school or home experience to ruin what might otherwise have been a good lesson. This is another reason for restricting the amount of whole-class teaching with slow learners since, with a more individualised learning strategy, with its inbuilt capacity for one-to-one communication, it is easier to defuse such a situation and to calm a distraught individual. It is likely that much of the aggression displayed by adolescent slow learners is related to their feelings of frustation at what school offers them.

Slow learners also vary in their motivation to learn, though generally speaking, by adolescence, their levels of motivation are usually lower than that of their more average or 'able' peers. Motivation is a central concept in education, yet its measurement in pupils can be subjective in nature. Samuel Ball makes this point when he writes that a teacher "sees a student as motivated if the student wants to do, and does, those things the teacher thinks the student should do. By the same token, a student is seen by the teacher as unmotivated if the student will not do, or has to be made to do, those things that a teacher thinks the student should do."[68] In the same

book L.W. Rust reiterates that interest and perceived relevance can act as motivators, but goes on to point out that, through classical conditioning theory, children who come to "associate previously neutral activities with highly interesting ones are apt in time to develop a greater interest in the former."[69] Relevance too can grow if it is explained to pupils.

Few teachers would deny that competence is a motivator of considerable proportions, because of its effect on self esteem. It is a difficult but necessary task to create situations for slow learners in which they can display knowledge or skills competently. It requires expertise in goal setting, and rapid feed back on performance; good performance requires reinforcement - at least in the early stages - with praise, comments, ticks and such like. K.J. Weber suggests that when a teacher corrects a written assignment from a slow learner, he should abstain from pinpointing all its flaws but merely find one aspect of it that merits praise and provide one suggestion for improvement.[70] (This might appear a 'kid glove'approach, but perhaps the alternative is boxing gloves?) It seems likely that tolerance of failure can best be taught against a background of success. Samuel Ball[71] considers the research done by E.D. Page in 1958[72] on the facilitating effects of reinforcement on pupil progress, to be of considerable practical value to teachers. In his research Page demonstrated that, with pupils of varying abilities, and with comments on their tests varying from nil through fairly stereotyped comments such as "Excellent!" to freely written, positive, personal comments, the greatest improvement in test scores occurred among the least 'able' pupils in the personalized-comment group. Ball writes: "Apart from the fact that these students had great room for

improvement, the reasonable assumption might also be made that for them an encouraging comment might be even more potent as a reinforcement than for a student who was already doing quite well."[73]

Much has also been written about the efficacy of rewards and punishments as motivating factors. It is not possible to generalise, except perhaps to suggest that the more anxious or inconfident the pupil, the greater will be his need for reward. Kelly underlines the problem when he says: "For us psychologists who try to understand what is going on in the minds of our clients it is not as simple as saying that the client will persist in rewarding behaviour, or even that he will vacillate between immediate and remote rewards. We have to know what this person construes to be a reward, or, still better, we can bypass such motivational terms as 'reward', which ought to be redefined for reach new client and on each new occasion, and abstract from human behaviour some psychological principle that will transcend the tedious varieties of personalized motives."[74] Kelly's clear statement of the problem does not provide an easy answer for the teacher searching for individual productive reinforcers for his pupils. Ball suggests that a preferred activity (if known) can be a useful reinforcer for a less preferred one "by making the former contingent on the completion of the latter."[75]

Brennan suggests that the period of extrinsic forms of reward should not be over-lengthened[76]; it is hoped that as success builds on success, intrinsic rewards, such as the execution of a piece of work for its own sake, become just as potent as earlier extrinsic rewards, and that slow learners gradually learn to accept, and work on, their own individual

strengths and weaknesses. Scottish teachers reacted strongly to the idea of the removal of the extrinsic reward of a certificate for Foundation level pupils. They felt it was necessary for the initial motivation of slow learners. Not everyone however would agree on the value of extrinsic forms of motivation. Devotees of John Dewey would possibly consider that such forms lead to conformity and passive assimilation.[77]

Anxiety can be a factor in learning effectiveness; in small amounts it can aid performance of some tasks, but Hansen[78] considers over-anxiety to be more of a problem in schools than lack of anxiety. He stresses the need to minimise opportunities for failure and, if a child is highly anxious, to minimise competitive situations, perhaps limiting it to competition against previous performance or among groups of similar ability.

Motivation is perhaps one of the most complex variables teachers need to consider. For example, are some motives stronger than others, and do some have to be satisfied (eg. physiological needs) before others such as self-esteem or self-actualization can emerge in individuals?[79]

Motivation, though crucial, does not cause all the variations in learning effectiveness between pupils. Nor does a high level of motivation necessarily ensure success in a learning task. 'Active' learning may be more effective for most slow learners than 'passive'learning but that does not mean that apparantly passive pursuits such as listening or receiving information are any less active than 'activity' periods. Active participation could involve, for example, handling concrete 'things', discussing ideas, gathering and using data or perhaps undertaking a problem-solving exercise.

What one can be more sure of is that slow learners need a great variety of 'active' forms of learning: "Extra doses of old familiar material are not likely to strike a chord of response."[80]

But it can also be stated that rote learning, repetitive practice and overlearning are particularly efficient means of learning especially at the knowledge end of the cognitive spectrum. Overlearning appears to be necessary for more than slow learners, but they in particular need to make use of the considerable success they can often display with rote learning because of the difficulty they often experience with analytic thought or insightful learning. The choice of 'massed practice' or 'spaced practice' would normally depend on the individual concerned and on the complexity of the material to be learned. S.A.Mednick in his book on "Learning" tends to favour spaced practice[81] but suggests that where the material to be learned in rather brief, massed practice might be the more efficacious. Slow learners usually require more repetitions and reinforcements than their peers, whether dealing with knowledge, conceptual or skill development. Interest somehow must be injected into the learning situation however; this can perhaps best be accomplished by the infusion of new content or by a change in learning strategy, perhaps a game or competition. Perhaps rote learning, because of its over-use in meaningless contexts in the past, has been unfairly overlooked as one possible strategy which can play a useful role as a confidence-builder for slow learners.

Remembering what has been learned poses special problems for slow learners, possibly because they tend to have a more fragmented and restricted store of conceptual relationships than their more 'able' peers and consequently more difficulty in assimilating and remembering information. Spaced recalls

can be helpful in long-term retention of material, but care would need to be taken that such a recall period did not cause interference with present learning. If previous learning could be directly related to present learning wherever possible, this would allow spaced recalls of previous learning to take place in context. It would not always be possible to anticipate where interference would be most likely to occur (whether proactive or retroactive[82]) but assessment of a diagnostic nature can be constructed in such a way as to give some feedback on this effect.

It is hoped however that the links established between items of learning would be positive rather than negative. Usually positive transfer of learning is enhanced if the learner has discovered relationships or applied principles himself. (Rote learning, on the other hand, dependent as it is on repetition and contiguity, is of rather little value in transfer of learning). Once more, therefore, slow learners are at a disadvantage due to their greater difficulty in generalising learning in new situations and in relating learning. Nor can transfer of learning between subjects be left to chance. The benefits of having a mainly subject-discipline based curriculum could be lost if efforts weren't made to help pupils with the internal integration of material.[83]

As has already been stressed imitation and example are powerful instruments of learning especially in the affective domain. How pupils are taught is as important as what pupils are taught. Pupils pick up values,attitudes and dispositions from the models presented to them, and teachers, along with parents, are usually very influential models. If their teacher values truthfulness, integrity, compassion, concern for others,

co-operation, open-mindedness, objectivity.....there is a chance of his pupils learning to do likewise.

8. THEORY INTO PRACTICE

A VARIATION ON AN OLD THEME - THE OBJECTIVES MODEL

How can a teacher so organise his curriculum planning that the outcomes he achieves in the classroom match the theoretical framework he wishes to build on?
How can he translate theory into practice?

This considerable task is made easier if the links between theory and practice are fairly clear. The objectives model, first postulated by Tyler[84], is perhaps the best known, most used - and sometimes most maligned - graphic statement of this link. Fig. (i) shows it at its simplest level.

Fig. (i)

Aims→Objectives→Content→Organisation→Evaluations

Two major criticisms of the 'objectives model', as it has come to be known, is its apparant predilection for very specific behavioural objectives (based on the assumption that learning is a change in behaviour), and that terminal evaluation is of only limited value. Lawton credits Bruner with the suggestion "that leaving evaluation until the final stage of the curriculum process is rather like doing military intelligence after the war is over."[85] In relation to the first criticism, specific behavioural objectives might be more appropriate to some areas of the curriculum than to others. A subject such as maths may lend itself almost to a programmed-learning approach, whereas subjects such as art appreciation or English literature, with a strong aesthetic component, would be more

likely to find the specification of precise objectives difficult. Social scientists, although they encompass a wide domain, might be more at ease with a definition of learning as 'facilitating a pupil to judge against criteria as to whether or not to change his behaviour'. Eisner suggests that not all objectives can be of an observable, measurable form, some are of a more 'expressive' than 'instructional' nature.[86]

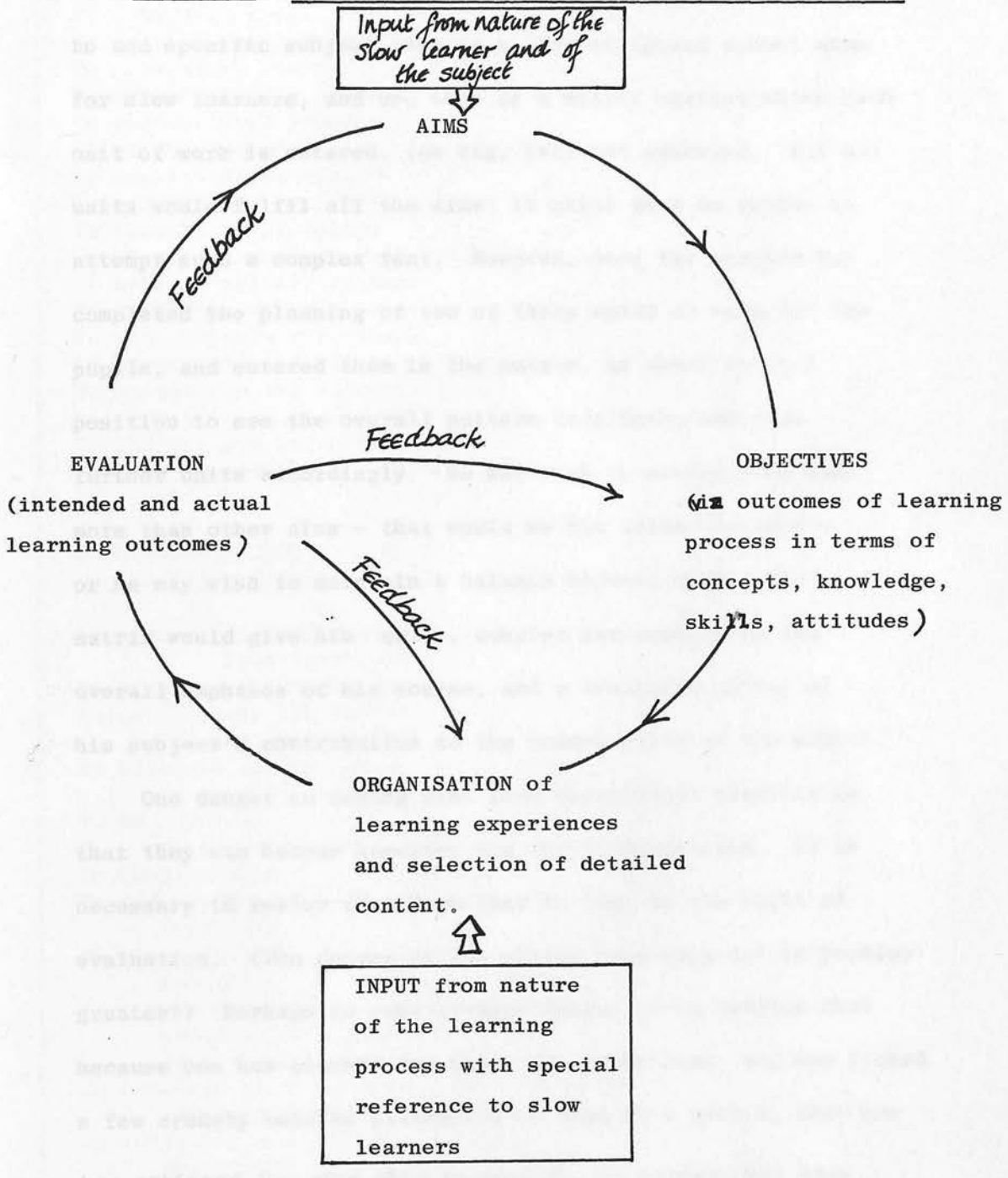
One possible solution to the dilemma is to abandon objectives and models, assuming their necessity, all together. Richard Pring argues that a curriculum "need not have precise objectives despite the theory which tells us otherwise"[87] since difficulties cannot always be foreseen or outcomes planned for. But surely the degree of precision in defining objectives can be geared to allow flexibility in the learning strategy? If evaluation is seen as an on-going rather than as a terminal process, objectives can be refined, reduced, rejected to suit the pupils, and the whole learning process considered as a dynamic interplay rather than as a static event, a 'set piece' requiring pupils to come up with pre-programmed 'correct' answers. There needs to be room not only for development and re-evaluation, but also for flair, intuition and serendipity. But that need not rule out the need for advance planning and resolution of hoped-for learning outcomes. Nor does it necessarily rule out the advance planning of an evaluation system which can go some way towards comparing the actual learning outcomes against the expected learning outcomes.

Curriculum Paper 15[88] paid particular attention to the need to specify one's intended learning outcomes or objectives. Brennan, in his survey of slow learners' curricula in 502 schools

in England and Wales, found most schools had prepared complex schemes of work in terms of content to be studied, but that there was a serious lack of curricular objectives, and only a very hazy idea of curricular aims.

Fig (ii) is an attempt to rescue the objectives model from an ignominious demise, to make it more responsive, more dynamic, and hopefully more useful.

Fig. (ii) An adaptation of the basic 'objectives model.'



THE MODEL IN OPERATION

How can a teacher monitor his progress towards achieving the broad aims of the school and the aims implicit in the subject he teaches, assuming he has been able to make both explicit? He would perhaps need to do this, through careful assessment, at the level of the individual pupils and their actual achievements (see later) and at a more general level of intention rather than achievement. It should be possible to add specific subject aims to a list of agreed school aims for slow learners, and use this as a matrix against which each unit of work is entered. (se Fig. iii) and measured. Not all units would fulfil all the aims; it might even be unwise to attempt such a complex feat. However, once the teacher has completed the planning of two or three units of work for the pupils, and entered them in the matrix, he would be in a position to see the overall pattern developing and plan further units accordingly. He may wish to stress some aims more than other aims - that would be his value-decision - or he may wish to maintain a balance between aims. The matrix would give him quick, concise information on the overall emphases of his course, and a realistic survey of his subject's contribution to the common goals of the school.

One danger in making aims (and objectives) explicit is that they can become accepted and institutionalised. It is necessary to review them from time to time in the light of evaluation. (The danger in not making them explicit is perhaps greater?) Perhaps an even greater danger is to imagine that because one has planned for their implementation, and has ticked a few crudely concise statements of aims in a matrix, that one has achieved the aims when in reality the attempt may have fallen short of the mark.

Fig. (iii) A MATRIX SHOWING THE RELATIONSHIPS BETWEEN COURSE CONTENT AND AIMS

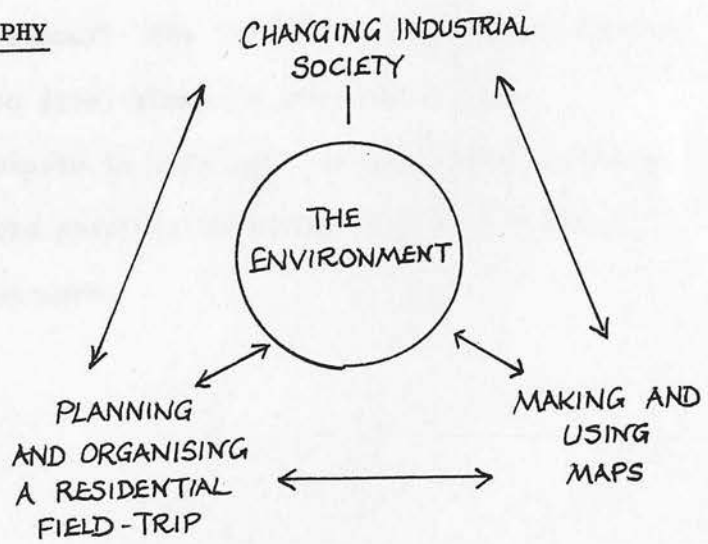
	S3 FOUNDATION COURSE UNIT - ENVIRONMENT			
BROAD SCHOOL AIMS (SLOW LEARNERS)	CONCEPT 4(A)			
To listen (aural proficiency)	✓			
To discuss (oral competence)	✓			
To think logically	✓			
To think critically	✓			
To think creatively	✓			
To read with comprehension	✓			
To write clearly	✓			
To write continuous prose	✓			
To master basic computation				
To interpret graphs	✓			
To develop inquiry, observation skills	✓			
To generalise and perceive relationship	✓			
To attempt simple analysis	✓			
To acquire useful knowledge	✓			
To relate learning	✓			
To experience success	DIAG. TEST			
To understand, express feelings	✓			
To clarify their values	✓			
To show tolerance to values/views of others	✓			
To make decisions/evaluate	✓			
To develop a sense of responsibility				
To show concern for others	✓			
To develop collaborative relationships	✓			
To appreciate the work of others and of nature	✓			
To concentrate and persevere				
To show initiative				
AIMS DERIVED FROM NATURE OF SUBJECT - GEOGRAPHY				
To understand simple spatial relationships	✓			
To draw and interpret maps	✓			
To investigate the interaction of man and his environment	✓			
To be aware of continuity and change in physical environment				
To be aware of continuity and change in man-affected environment	✓			
To have concern for the environment	✓			
To appreciate cultural diversity and human difference				
To appreciate the interdepence of societies				
To consider local, national and world problems in appropriate frames of reference	✓ (LOCAL)			
To consider possible solutions to real problems facing society	✓			
To interpret and classify everyday experience	✓			
To perceive overall similarities and contrasts	✓			

At the level of objectives, the teacher can no longer talk in generalities, and yet he needs to avoid the over-precise specification of behavioural objectives. His choices need to operationalise his aims, to 'flesh out' his value-decisions about education. He may possibly specify objectives in the areas of concepts, knowledge, skills and attitudes, and vary the mix according to his own criteria.

Let us assume that he wishes to have at the start of his Foundation geography course a unit which will awaken pupil interest through its direct relevance to their local area, and which will embody as many of the general school aims as possible in an attempt to find strengths and weaknesses, likes and dislikes early in the course. He also wishes to use this unit as a useful link with future units he has considered including in the first year of a Foundation course.

Fig. (iv)

POSSIBLE UNITS FOR A FIRST YEAR FOUNDATION COURSE IN GEOGRAPHY (NB S3 PUPILS)



Planning and organising a field trip would also have exuded the extrinsic motivation so necessary at the start of a course with slow learners; but it seems likely that pupils might get more out of a field trip having been introduced to concepts and skills beforehand. The timing of a field trip near the end of S3 could also act as a motivator in the form of a reward. A course in mapwork skills would perhaps seem more valuable once pupils have come to understand the usefulness of map skills in the practical, concrete setting of a study of the local environment, rather than in a vacuum. A unit on the changing industrial society, relevant as it is to pupils thinking ahead to the world of work, might seem less immediate and less real than a unit on their local environment, and hence might be a poor choice for the important initial unit.

From the hundreds of possible <u>concepts</u> or generalisations on the Environment, which are most central to geographic thinking on such a topic, and most likely also to embody the aims of the school? The list of concepts could possibly be pruned down to five, which in addition to the considerable emphasis in this unit on skills and attitude development, could possibly be worthy of a full term's work for slow learners.

THE ENVIRONMENT - POSSIBLE CONCEPTS TO BE INCLUDED AT FOUNDATION LEVEL

1. Man is dependent on the physical environment as a life-support system.
2. Some changes in the physical environment are 'natural'. ('Process')
3. Man has little control over such natural processes, but can sometimes lessen their effects.
4. Man can cause environmental change; not always is such change beneficial.
5. Short term gains can mean long term losses.

It would be reasonable to assume, but perhaps prudent to check, that pupils already had an understanding of such simple concepts as environment, physical environment, natural environment, man-affected environment, urban environment and rural environment.

It seems also reasonable to assume that since most pupils live in or at least attend school in (man-affected) urban environments in Scotland, that concept No.4 would offer most scope for direct illustration in the local school environment. Perhaps 10-12 hours of classtime could be given to a consideration of this concept in the local context, with a further 3-4 hours used to consider the same concept in a natural environment, in a broader context and on a macro as opposed to micro scale, viz.

CONCEPT No.4

PART A (10-12 HOURS)	PART B (3-4 HOURS)
CHANGE IN MAN-AFFECTED ENVIRONMENT (LOCAL URBAN AREA), AND ENVIRONMENTAL REPERCUSSIONS	CHANGE IN NATURAL ENVIRONMENT (RAIN FORESTS OF BRAZIL AND S.E. ASIA), AND ENVIRONMENTAL REPERCUSSIONS

Part A (local study) will be used to illustrate in practical terms, the theoretical aspects of curriculum planning already outlined. 10-12 hours represents perhaps a third of one term's work for Foundation pupils, and consequently a strong emphasis on local as opposed to world-scale, and on man-affected as opposed to natural environments. (Some teachers might prefer a different emphasis yet still fulfil the aim; other teachers might prefer to emphasise different aims). Whatever the emphasis chosen, this exemplar of curriculum planning represents only approximately 6% of a Foundation course in terms of time, and thus illustrates the size of the task of designing a complete Foundation course.

Having 'narrowed the field' considerably to one major concept (in a local urban setting), what useful knowledge would it be reasonable to expect a 14-15 year old slow-learner to master in this context? At the end of this unit such a pupil could be expected to know.

(1) How to get from A to B (using a street map e.g. a bus map) in the urban area.

(2) How to direct a visitor from A to B (using a street map e.g. a bus map) in the urban area.

(3) How to get from A to B in the study area using a 1:2500 Ordnance Survey Map.

(4) How buildings deteriorate if not maintained.

(5) That choices have to be made about land uses according to criteria:

(6) Who makes the decisions on land use.

(7) That they (the public) can help shape such change by participation in the process.

(8) That planning decisions affect peoples' lives.

(It might also be possible to stimulate an awareness, as opposed to knowledge of, subsidiary concepts such as land use is partly a reflection of land value, but this needs to be kept to its simplest level).

This unit offers a rich source of situations in which the pupil can find out knowledge for himself at first hand and from sources other than his teacher. He can exercise his intellectual functions, albeit limited functions, in a real, social setting as opposed to an inert, asocial, bookish setting.

The objectives in relation to skills and affective development are many and are shown diagrammatically by ticks on the matrix (see Fig.(iii)). Aims such as developing a sense of responsibility or initiative are not ignored, but are perhaps more difficult to plan for in an introductory unit as teacher support can only be withdrawn gradually from slow learners. (Planning a field-trip at the end of S3 and executing a piece of project work of their own for internal assessment during S4 are perhaps the vessels which most readily lend themselves to these affective aims).

The model used in Fig.(ii) suggests that after the consideration of aims and objectives, thought should be given to the Organization of learning experiences and the selection of

detailed content. It also suggests that at this point it is appropriate to have by one the 'vade mecum', perhaps in the form of an abbreviated check-list of points to be borne in mind when organising learning experiences for slow learners. Such a check list, in this case derived mainly from the issues raised in part seven, would differ from the matrix in that each unit would need to satisfy its requirements - more or less - whereas, in the case of aims, some units could concentrate on certain aims and not on others, as long as the overall balance worked out over the two years. (It might even be possible for a subject to concentrate more on some aims than on others to help provide an overall school balance in this respect.) But in the case of organising learning experiences in the light of how pupils learn and are motivated, the overall success could depend on the attention given to practical 'learning theory' in each individual unit.

SUGGESTED CHECK LIST TO CONSIDER WHEN PLANNING LEARNING EXPERIENCES

- Is the number of new ideas/lesson limited, to allow assimilation?
- Are intermediate objectives available where necessary, to provide realistic goals?
- Is the sequence of learning steps clear and logical?
- Is the concept/skill/knowledge relevant to their world, and if not obviously so, has its relevance been explained?
- Is the emphasis on real, concrete situations rather than on abstract or hypothetical cases?
- Is their a variety of learning strategies throughout the unit?
* - Do pupils have an opportunity to display success and are problems detected early rather than late?
* - Are there opportunities to relearn, given a different approach or a variation in content?

* - Is there opportunity for individualized learning?

- Is the amount of teacher talk 'at' the class as a whole kept to a minimum?

- Are materials structured enough to give guidance to pupils, but not so structured as to programme every response?

- Are materials varied, readable, professional-looking?

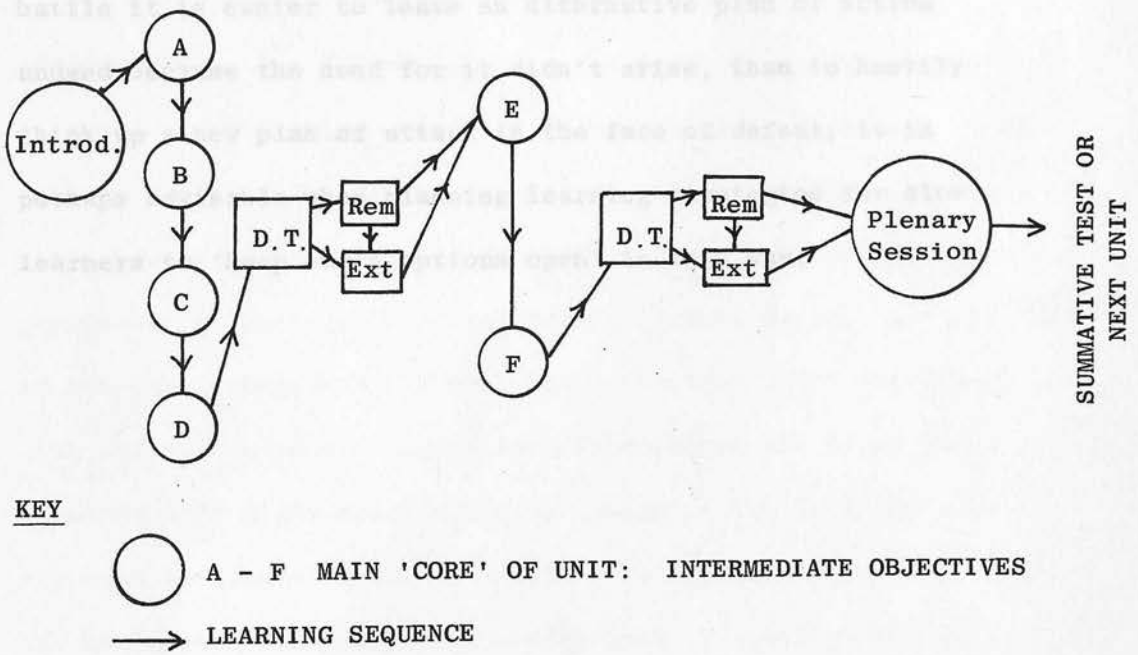
- Is there a suitable point in the unit to recall previous learning?

- Is there an opportunity to link learning with other in-school and out-of-school learning?

A basic learning strategy which aims to accommodate the requirements of the checklist is outlined in Fig. (v) (Those requirements marked with an asterisk on the check list are the main determinants of the basic structure of the strategy, especially the need to assess before the end of the unit which pupils have which problems, and the provision of some individualized remedial attention).

Fig. (v)

BASIC LEARNING STRATEGY - A MODEL[89]



KEY

A - F MAIN 'CORE' OF UNIT: INTERMEDIATE OBJECTIVES

LEARNING SEQUENCE

KEY. (cont.)

D.T. SHORT DIAGNOSTIC TESTS OF A CRITERION - REFERENCED OR DOMAIN-REFERENCED FORM, TO PROVIDE INFORMATION ON THE STRENGTHS AND WEAKNESSES OF INDIVIDUAL PUPILS, AND OF THE COURSE

(N.B. SUMMATIVE TEST COULD BE NORM-REFERENCED IF NECESSARY)

Rem REMEDIAL WORK ON 'CORE'OBJECTIVES

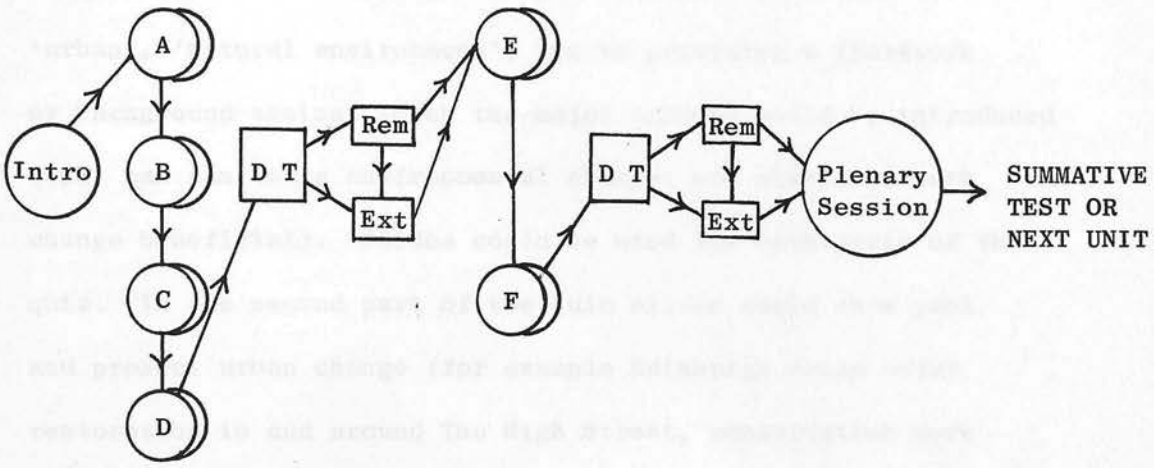
Ext EXTENSION WORK ON 'CORE' OBJECTIVES (ENRICHMENT)

However, if the teacher wishes to use the tests not only to pinpoint individual weakness - and act on it - but also to boost pupil confidence, it might be advisable to re-fashion the model (Fig. v) to allow pupils two chances, rather than only one chance, to master a specific objective before a test is administered. The second 'bite at the cherry' could involve a different approach, or a variation in content to keep interest from flagging. This adaptation of the basic learning strategy (viz. adapted for a class of slow learners) is outlined in Fig. (vi). It is perhaps of most use at the start of a Foundation course when the need to ensure success and provide extrinsic forms of motivation is at its greatest. However, just as in battle it is easier to leave an alternative plan of action unused because the need for it didn't arise, than to hastily think up a new plan of attack in the face of defeat, it is perhaps advisable when planning learning strategies for slow learners to 'keep one's options open' in this way.

Fig. (vi)

BASIC MODEL OF LEARNING STRATEGY

ADAPTED FOR A CLASS OF SLOW LEARNERS



KEY (as for Fig. (v))

A - F Main core of unit; intermediate objectives

Provision of alternative approach/content.

(N.B. This idea could perhaps provide a small research topic in the effectiveness of such a strategy).

Exemplar - Detailed breakdown of learning sequence

INTRODUCTION: The introductory lesson needs to establish the relevance of the unit. More 'able' pupils might cope with ideas such as 'civic duty' or 'public participation in planning' but with slow learners the approach needs to be more immediate, more concrete. A taped version of a recent 'Action Wanted' article[90] (see p.62) in the local newspaper for example in the form of an interview with irate tenants and councillors (annoyed at the press for interfering?) might spark off some comment. The tape could be prepared in advance by older pupils or a helpful drama department, and could pose the problem of conflicting viewpoints, and an apparant impasse. The newspaper cutting could be on the

classroom wall, along with others of a similar nature, to emphasise the reality of the problem.

The introductory lesson could also include a competition or quiz geared to revising concepts such as 'environment', 'urban', 'natural environment', and to providing a framework or background against which the major concept would be introduced (viz. man can cause environmental change; not always is such change beneficial). Slides could be used for both parts of the quiz. In the second part of the quiz slides could show past and present urban change (for example Edinburgh could offer restoration in and around The High Street, conservation work in The New Town, 'famous' gap sites, areas of suburban growth, the new city by-pass and rehabilitation work on the South Side to mention a few).

Since most major changes in the appearance of buildings or in land use requires planning and decision-making, and allows for public participation, the unit could focus on any one of a number of urban changes. The choice of an area for detailed study might in theory rest on criteria such as the richness and quantity of examples it can provide, the availability of an up-to-date Local Plan, the availability of sites at various stages of change, but in practice the study area chosen may have to be a compromise between these 'internal' criteria and the 'external' criterion of logistics. In this case Edinburgh's South Side has been chosen as it fulfils all the internal criteria and enjoys a fairly central situation near major bus routes.

PART OF UNIT	SEQUENCE OF INTERMEDIATE CONCEPTS	POSSIBLE METHODS	SKILLS PRACTISED	DEGREE OF STRUCTURE OF MATERIALS	WHOLE-CLASS, GROUP OR INDIVIDUAL STRATEGY
(A)	Unlike natural environments, urban environments require MAINTENANCE (whether in public or private ownership)	Interview, live or taped, with builder, on topic of how buildings deteriorate if not maintained (eg. stone corrosion, leaks, wet and dry rot, structural decay, rising damp etc)	Listening	Semi-structured interview	Class, (but could be later used by individuals or groups)
		Short Discussion	Discussing		
		Annotate a (prepared) diagram of a house with labels showing vulnerable areas. Key words could also be provided	Diagrammatic representation of information Writing brief notes.	Semi-structured worksheet	Individual

From time to time throughout this unit, for example before pupils got down to work or after they have cleared up their materials, short bursts of aural practice in using a bus map can be introduced. This could be done in small groups, in competition form, each group trying to outwit the others.

PART OF UNIT	SEQUENCE OF INTERMEDIATE CONCEPTS	POSSIBLE METHODS	SKILLS PRACTISED	DEGREE OF STRUCTURE OF MATERIALS	WHOLE-CLASS, GROUP OR INDIVIDUAL STRATEGY
(B)	Urban decay occurs when standards of maintenance fall	In part of study area assigned, record (on map, in list, by instant photographs) as many examples of urban decay as possible	Direct observation Recording Logical thinking	(Handling raw resources) Unstructured	Group
		Read report provided from local paper about living in area of urban decay. Imagine you are a local resident - write to your councillor or newspaper editor to complain	Reading Imaginative writing in continuous prose	(Raw resource) Semi-structured	Individual

PART OF UNIT	SEQUENCE OF INTERMEDIATE CONCEPTS	POSSIBLE METHODS	SKILLS PRACTISED	DEGREE OF STRUCTURE OF MATERIALS	WHOLE CLASS GROUP OR INDIVIDUAL STRATEGY
(C)	Urban change is planned change; the Local authority makes the decisions but the public can play a part too	Using cartoon-type illustrations (provided) create illustrated flow-chart showing stages of decision-making	Simple Analysis diagrammatic representation of information	Semi-structured	Groups or Individual
		Conduct a small survey of people living and working in South Side to find out to what extent local people have heard of, seen, discussed, or played a part in forming the local plan. Simple graphs to illustrate results Discussion of results, including problems of conducting survey	Inquiry Recording Graphicacy Listening Discussing	Raw resources, but recorded in structured format Semi-structured Semi-structured	Group Group or Individual Group or whole class

PART OF UNIT	SEQUENCE OF INTERMEDIATE CONCEPTS	POSSIBLE METHODS	SKILLS PRACTISED	DEGREE OF STRUCTURE OF MATERIALS	WHOLE-CLASS GROUP OR INDIVIDUAL STRATEGY
(D)	Planning decisions may mean decaying buildings are pulled down (rebuilt or replaced) or improved, according to criteria (by historical interest, architectural merit, cost, surrounding land use)	Pupils conduct an interview with Local Housing Improvement Officer (taped for later use). Short report on interview	Finding Information Listening Discussing Writing prose	Semi-structured interview (Pupils given help with preparing questions)	Whole Class
		Interpretation of graphs showing (lack of) household amenities in study area Compare photos taken in (B) to 1:2500 local map showing planning decisions. What fate awaits each building photographed?	Graphicacy Mapreading Recording	Structured Semi-structured	Individual Small groups or individual

Sample items from Diagnostic Test No.1

(N.B. Care would need to be taken to include enough items to give reliable results. Teachers are generally ill-equipped to deal with problems such as test reliability, and would hopefully benefit from in-service training on test-construction).

1. KNOWLEDGE OF BASIC CONCEPTS

Match each word to its correct meaning. You can save time by filling in the letters in the boxes provided.

WORDS	MEANINGS
1. Environment	A Buildings which are sub-standard and lacking maintenance
2. Urban	B The area and objects surrounding us
3. Rural	C Areas unchanged by man
4. Natural Environment	D Improvement and modernisation of sub-standard buildings
5. Listed buildings	E Buildings on a Special List of property of historical or architectural interest
6. Urban decay	F Relating to the countryside
7. Urban rehabilitation	G Relating to a city or town

WORD	MEANING
1	
2	
3	
4	
5	
6	
7	

2. ORAL COMPETENCE: MAP READING SKILLS

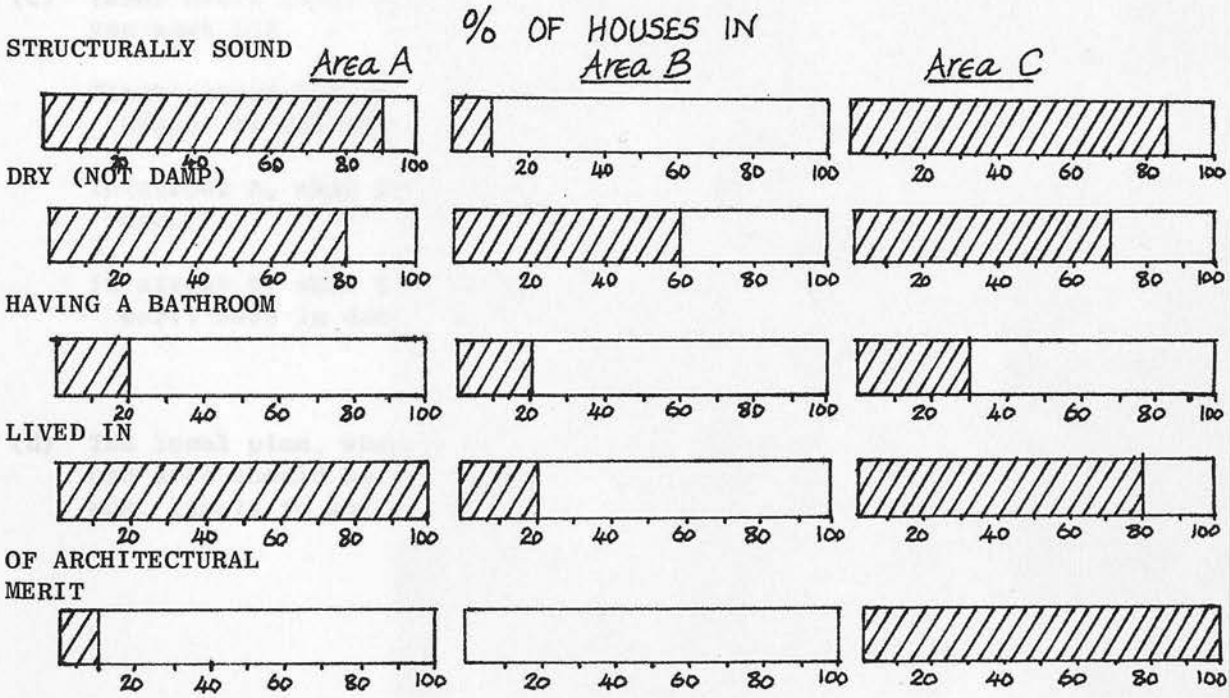
Part of the test could be aural; if the teacher isn't available to test on a one-to-one basis, the services of an older pupil, a student-teacher or another member of staff could be enlisted, or a tape-recorder used. Pupils could be asked to direct the tester from A to B using the two types of map used in the unit.

(Photos could be used as a stimulus to get pupils to comment aurally on ideas such as urban decay).

3. GRAPH READING AND INTERPRETATION

A local authority made a survey of houses in 3 areas of a town to help them prepare their Local Plan. They drew graphs of their results.

Study the graphs, and then answer the questions below.



(a) Fill in the %:-

What % of Houses in Area A are structurally sound? _____ %

" " " A are lived in? _____ %

" " " B are of architectural merit? _____ %

" " " C have a bathroom? _____ %

" " " B are not damp? _____ %

(b) Circle the correct letter:-

Which area has the lowest % of structurally sound houses?	A	B	C
Which area has the lowest % of empty houses?	A	B	C
Which area has the highest % of houses of architectural merit?	A	B	C
Which area has the highest % of houses with bathrooms?	A	B	C
Which area has the highest % of damp houses?	A	B	C

(c) (Some extra questions - try them only if you want to)

Which street had the highest % of houses in danger of falling down?	A	B	C

In street A, what % of houses lived in were damp? _____%

In street C, what % of houses of architectural merit were in danger of falling down? _____%

(d) The local plan, when it is published, suggests one area should be demolished. Which is it most likely to be? (A B or C) - Give 2 main reasons.

4. UNDERSTANDING THE PLANNING PROCESS

Put the following events in the order in which they were likely to occur.

(You can save time by putting a letter opposite each number in boxes below)

Events (not in correct order)

A Planners (and local people) do surveys, gather and consider information.

B Planning Committee consider the comments of local people and a revised plan is published.

C Planning Committee publishes their report, with proposals and choices.

D A final plan is published and (usually) accepted by the District Council.

E District Council decides to prepare a Local Plan for The South Side.

F The public can object to the revised plan.

G Local people discuss proposals and put forward comments.

H If local people still object there will be a public enquiry.

1	
2	A
3	
4	
5	B
6	
7	
8	H

POST-TEST REMEDIAL WORK

The criterion for 'passing' each part of the test would be somewhat arbitrary, and would depend on the number of test items available for each part, and the difficulty level of the questions. For example in question 3, the criteria for 'passing' could be of the following nature:

Part (a) - very easy - 5 answers correct out of 5

" (b) - moderately difficult - 3/4 answers correct out of 5

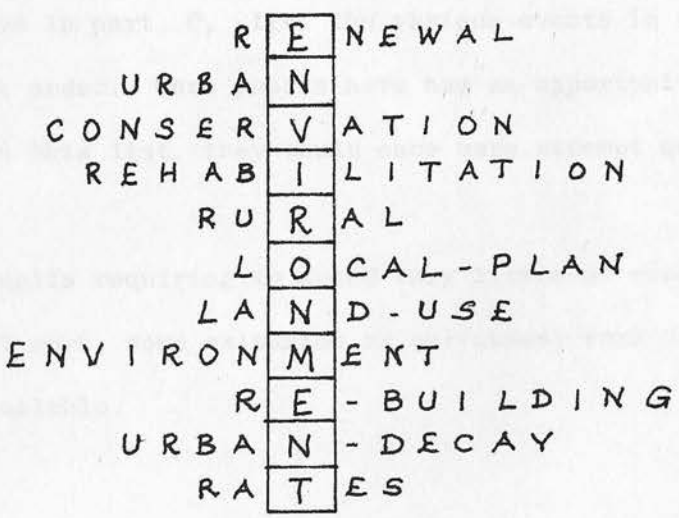
" (c) - difficult - therefore optional.

" (d) - difficult, but important enough to require no glaring errors.

A space could be left at the foot of the test to inform the pupil of those parts which still require attention, and of the suggested work of a remedial and/or extension nature he should attempt. It should however be borne in mind that a pupil may have performed poorly ('failed') in a part of the test primarily because of a reading or comprehension problem. When giving back test papers it would be beneficial to pupil and teacher if some discussion could take place with individual pupils.

For pupils whose knowledge of basic terms - simple concepts - has been shown to be shaky, the remedial work could involve some re-learning of terms followed by a crossword-type puzzle, perhaps similar to Fig. (vii) below.
(Clues would need to be provided in a form similar to test question 1 (Meanings).

Fig.(vii)



2. Pupils having difficulty in directing a visitor from A to B in Edinburgh using a bus map, may suffer from one or more handicaps, for example they may have poor locational sense, poor left/right sense, difficulty in focusing only on the required map information and ignoring all other unnecessary detail, or perhaps shyness in delivering instructions which they are well able to work out.

   A simplified map such as Fig. (viii), showing only specific locations could form the basis of a simple written exercise which, once completed and checked, could be taped by the pupil for oral practice.

3. Pupils 'failing' to reach the required criterion in graph work would probably benefit more from time spent with the teacher, in a small group or individual context, in an attempt to find the source of the problems together.

4. The simplest remedy might be to form a group of pupils who 'failed' this part, and with the help of their flow charts prepared in part C, list the various events in their correct order. Once pupils have had an opportunity to relearn this list, they could once more attempt question 4.

For pupils requiring to spend very little or even no time on remedial work, some extension or enrichment work needs to be readily available.

EXTRA WORK No.1 - THE SOUTH SIDE OF THE FUTURE

Study the Proposals map[92] and key, and fill in the missing information.

AREA	FUTURE USE
East Adam Street (off Pleasance)	
St. Patrick Square	
No.57-71 Buccleuch Street	
Corner of Nicolson St/West Richmond St.	
Richmond Lane	
Area just north of Parkside Street	
Dumbiedykes Road (at No.11 on Map)	
Area near West Nicolson St. (No.3 on Map)	

EXTRA WORK No.2 - CONSERVATION CORE AREAS OF THE SOUTH SIDE

(a) Conservation Core areas are the areas of architectural or historic value which are in the worst state of neglect. They are shaded in dark grey on the Proposals map. Find them, and describe (on tape) where three of these areas are found.

(b) One of these areas is described in an article from the Evening News (Oct.1978)[93] (see p.77)

From the report find - What did the Edinburgh Corporation mean to do with the buildings when they bought them in 1966?

From the map - Suggest what "upgrade" means.

- how would "rebuild" differ from "new building"?

From map and photo - find out if any "new buildings" will front on the Nicolson St.

(c) From the Proposals map, this area is for "Housing and Compatible Uses". What does this mean? (See key to the Proposals map)

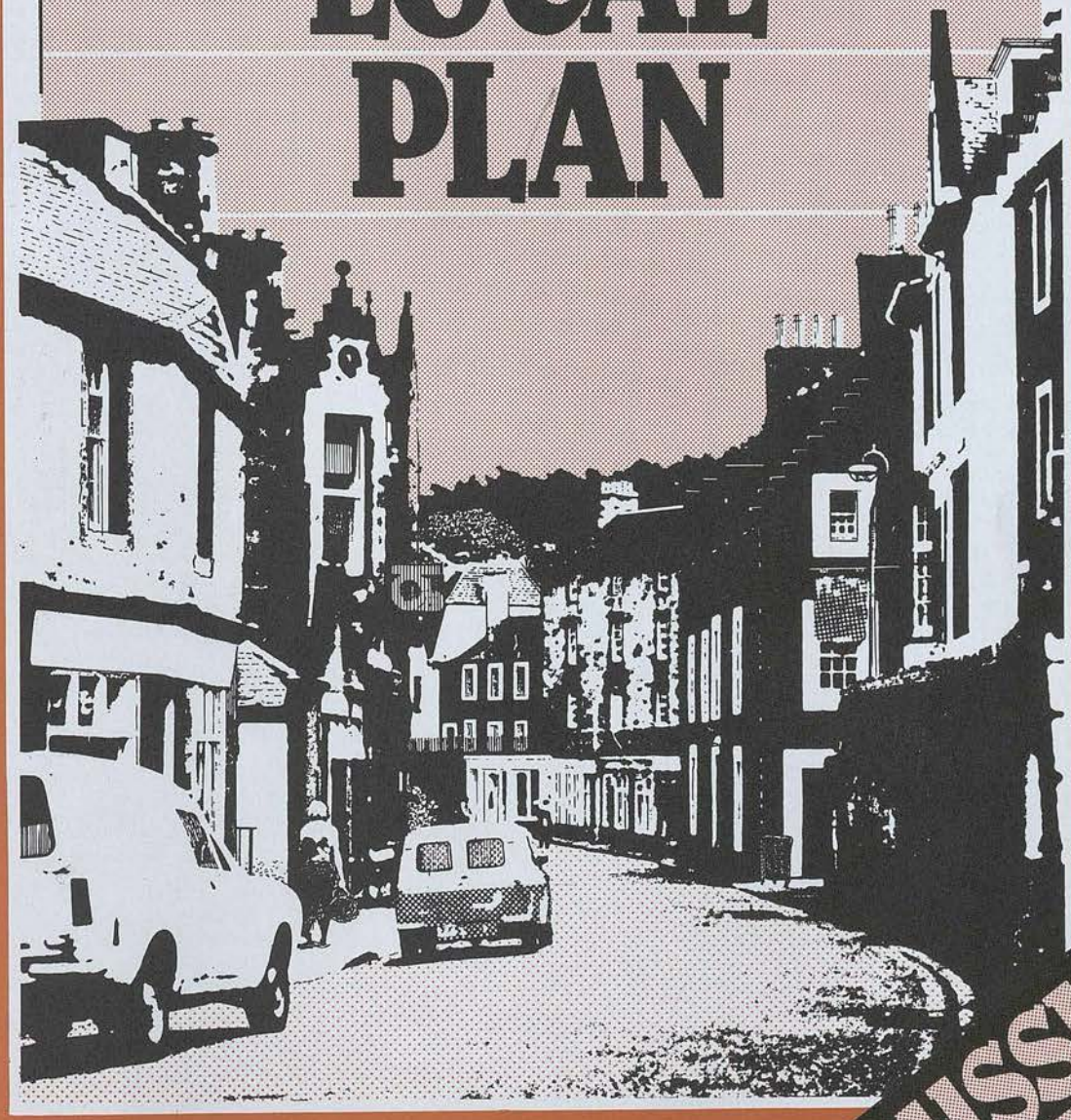
(d) Read recent newspaper report on progress so far[94]. (see p.78).

EXTRA WORK No.3 - QUEENSFERRY LOCAL PLAN[95] (still at First Report Stage)

Study the Discussion Paper. Imagine you live in Hopetoun Road, opposite area 13 on map B. Area 13, which you can see from the window of your house, is at present open land. Find out from this paper what the proposals are for this area, and write your comments and suggestions on the form supplied with the Discussion Paper.

THE CITY OF EDINBURGH
DISTRICT COUNCIL
PLANNING DEPARTMENT

QUEENSFERRY LOCAL PLAN



DISCUSSION PAPER

Comments Please

The District Council's Planning and Development Committee has approved in principle the policies and proposals that may be included in a local plan for Queensferry. These are described in this leaflet, together with the decisions taken so far. Everyone who lives, works or has an interest in the Queensferry area is invited to comment. Please write to the Director of Planning by Friday 22nd August 1980, referring as closely as possible to the specific policies and proposals described in this leaflet.

Further information and a copy of the background report may be obtained from the Planning Department, 18 Market Street, Edinburgh EH1 1BJ which is open from Monday to Friday, 9am to 4.45pm (Tel. 031-225 2424 extension 6274).

The proposals will be looked at again in the light of public comment. The final plan will then be drawn up and recommended to the District Council for adoption. At that stage there will be an opportunity for formal objections and if necessary a public local enquiry will be held.

Introduction

Queensferry is a small town of historical importance with a population of about 7,600 people (about 8,600 in the wider local plan area). Local industries provide employment for some 2,400 people. The town lies in attractive wooded countryside, most of which is prime quality farmland, and is close to Edinburgh with good access to the main road, rail and air networks. It is consequently a popular place in which to live and there are pressures on the District Council to allow more private house-building. Grants are available for industrial development and there is potential for further industrial and employment growth.

Policy Background

The significant approved planning policies, set out in Lothian Regional Council's Structure Plan and supported by the District Council, are that open countryside should be protected from development and that prime quality farmland in particular should be maintained in agricultural production. Instead, new development is to be directed to existing built-up areas. The Structure Plan has been approved by the Secretary of State, but with the proviso that the amount of land available for new house building should be looked at again to see whether further land will be needed. The proposals described in this discussion paper generally concentrate on sites within Queensferry. However, if the review of the Structure Plan housing policy does show that more land is needed within the Edinburgh area, **consideration may have to be given to further development of land outwith the existing boundaries of Queensferry and Dalmeny (Site 9, see photograph).**

Countryside

The maps show the area recommended for allocation as "countryside" in the Local Plan. The principal objectives in the countryside are to protect good farmland from unnecessary development, to maintain its woodland character and to seek greater public access for informal recreation.

It is proposed that the entire area outwith Queensferry and Dalmeny should be designated Greenbelt and that no development should be permitted other than for agricultural or other purposes appropriate to the countryside. Tree planting will be encouraged where it will enhance the landscape, particularly along the verges of roads, footpaths and built-up areas. In conjunction with Lothian Regional Council and local landowners, the District Council will seek to establish a network of footpaths and cycle routes. The disused railway line from Queensferry to Kirkliston and Newbridge is already being considered for this purpose **(Site 17).**

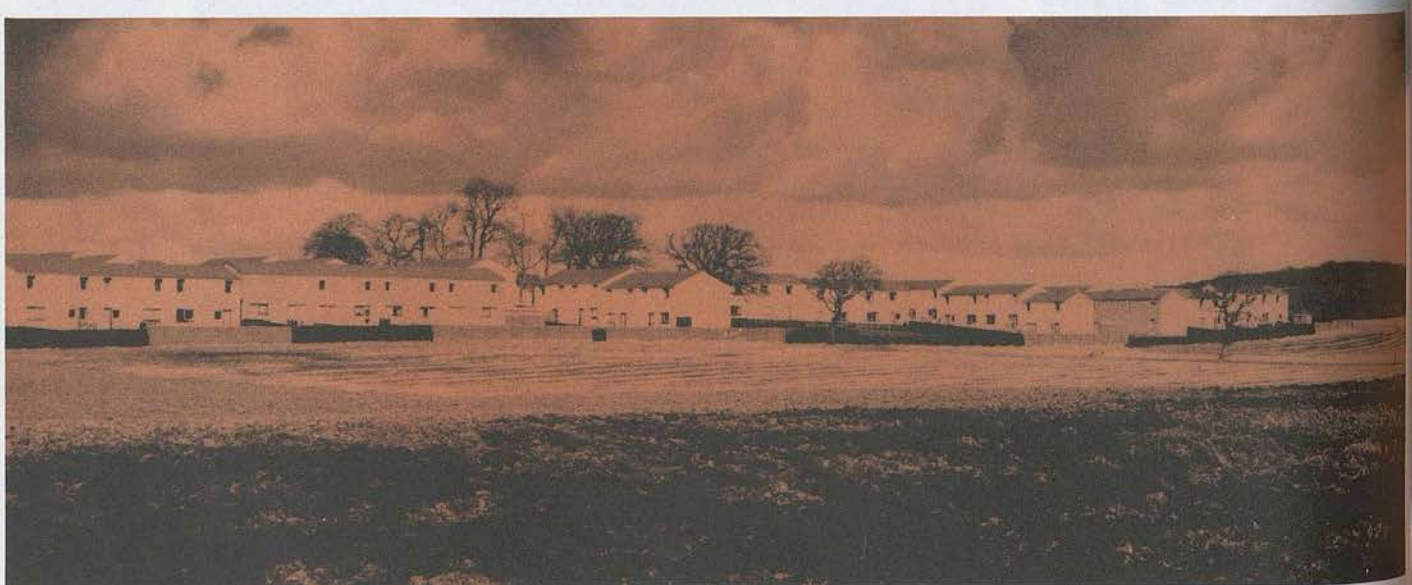
Housing

There is a general need to provide land for new house building and some priority must be given to this in the proposals for Queensferry. Map B shows the main sites on which new house building could be encouraged.

Planning permission has already been given for 236 houses in Echline **(Site 3)** in addition to those currently being built there, and also for smaller sites at Scotstoun Avenue and Dalmeny. Sheltered housing for the elderly is proposed for a site at William Black Place which the District Council has acquired. If all other suitable sites **(Sites 5 to 12)** were fully developed a further 500 houses could be provided, bringing the total population of the town to about 10,000.

The District Council wishes in particular to see some improvement to the dereliction in and around The Binks at the western end of the Queensferry Conservation Area (Site 5, see photograph). Some new housing might therefore be appropriate although in any proposals for this area the existing car park and the proposed

(Continued on page)



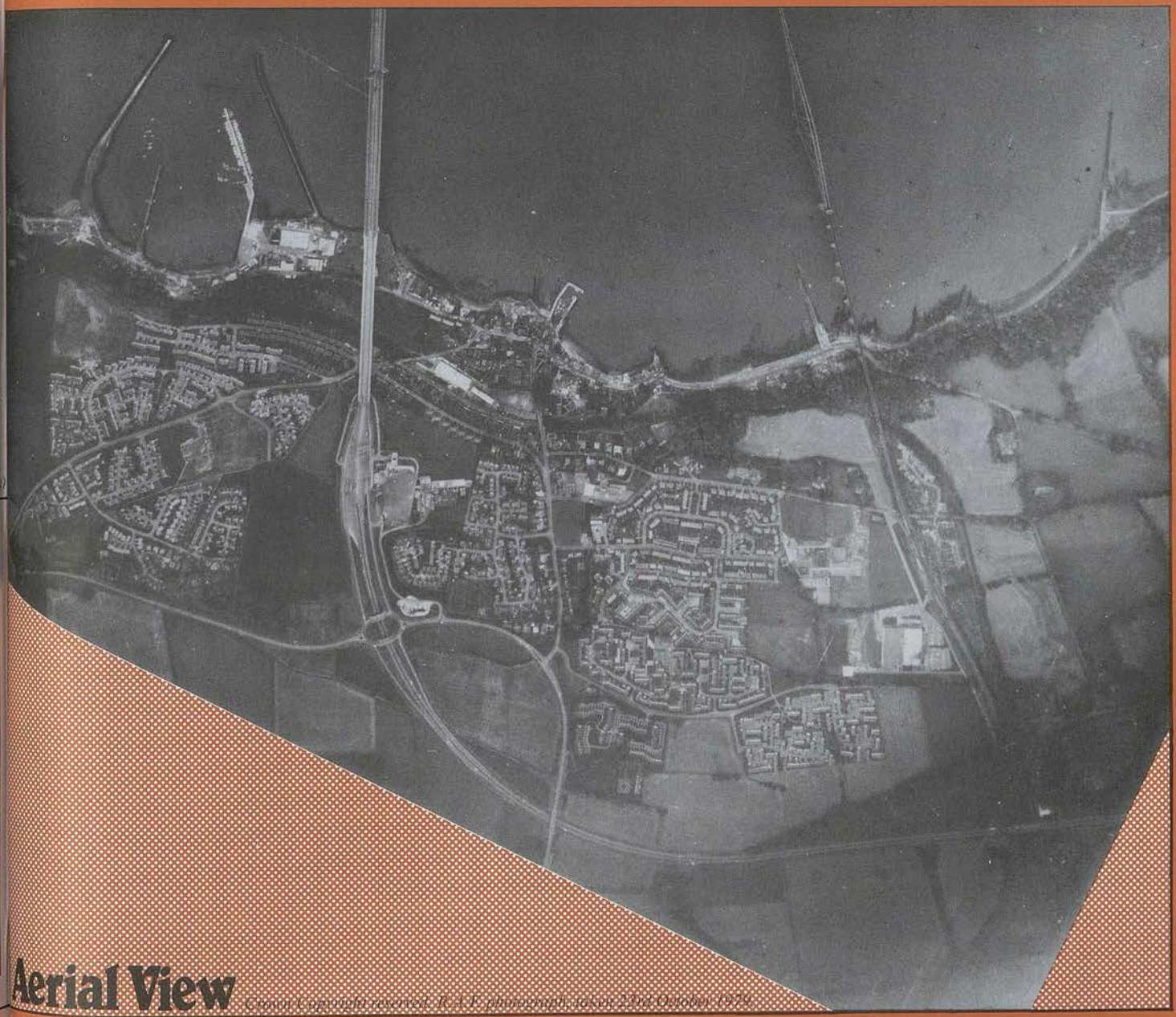
". . . consideration may have to be given to further development outwith the existing boundaries . . ." (South Scotstoun, Site 9).

Commitments

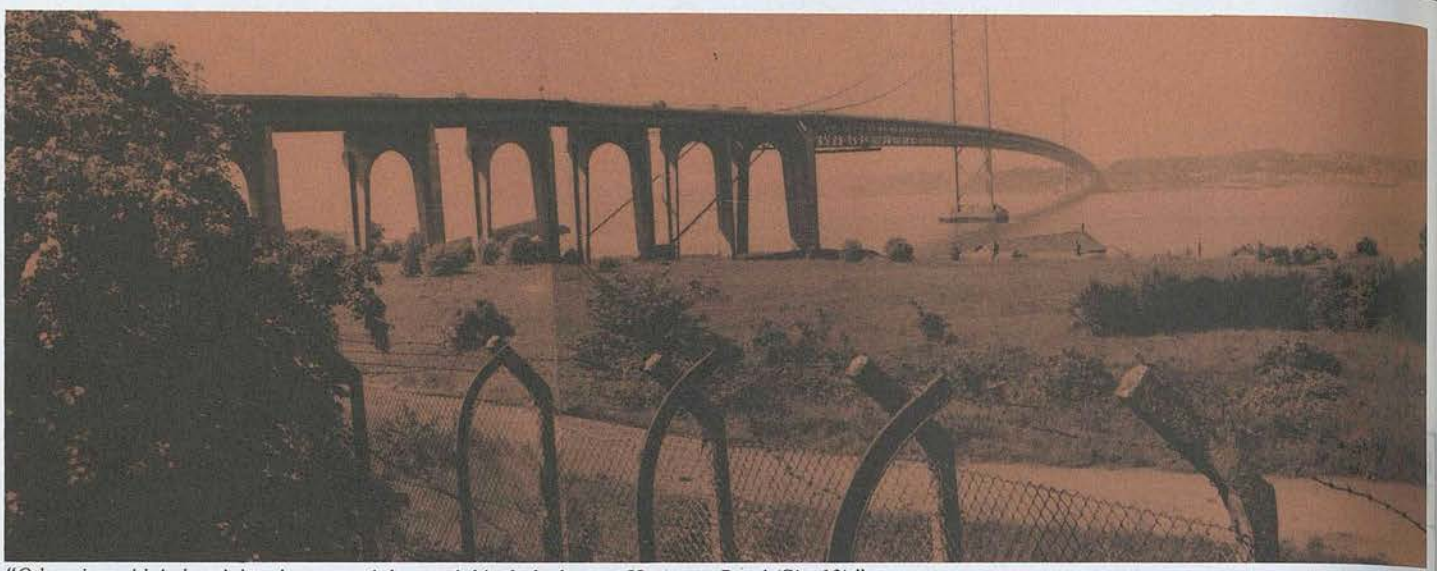
1	Port Edgar	Acquired by Lothian Regional Council for yachting marina.
2	Flotilla Club	Acquired by District Council for local community centre.
3	Echline	Private proposal for new houses and small shopping centre.
4	Hewlett-Packard	Factory extension: Lovers Loan to be re-routed round west side.

Vacant Sites — Possible Uses

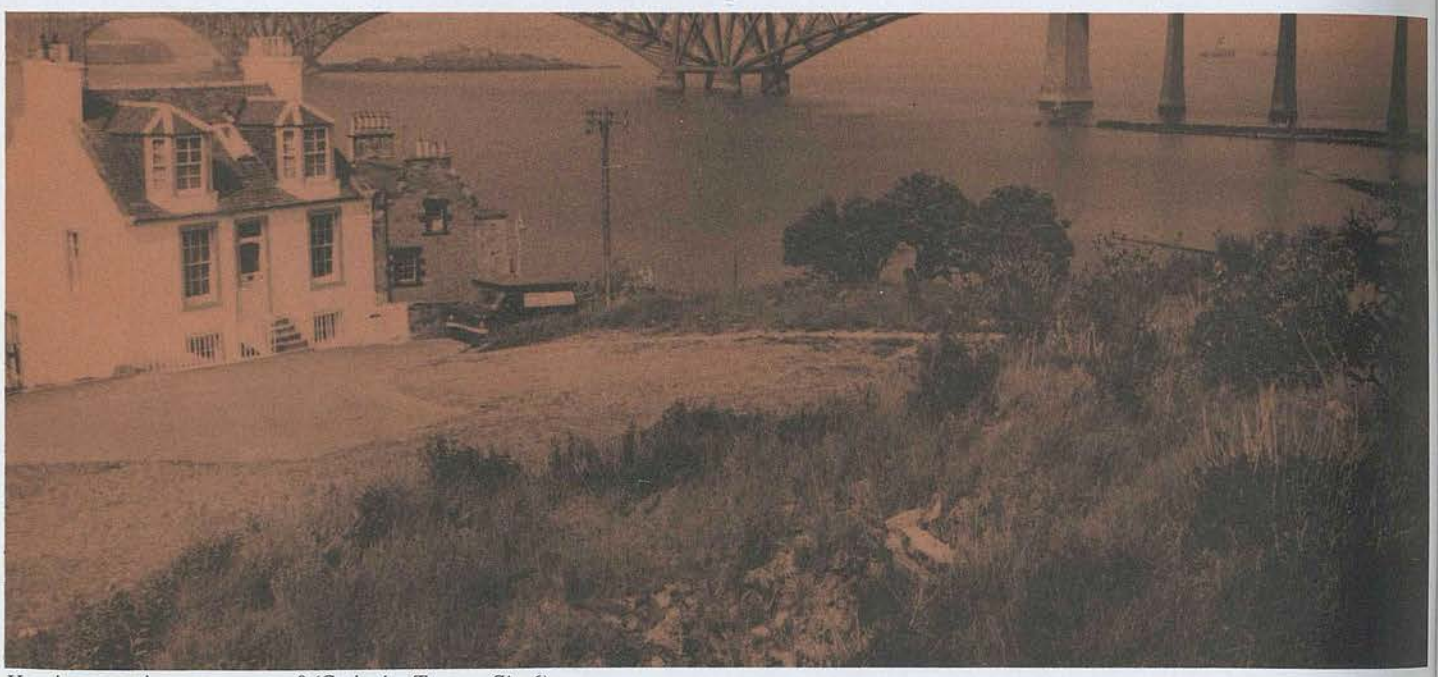
5	The Binks	Houses, landscaping, car park.
6	Catherine Terrace	Houses, garaging, open space.
7	Stewart Terrace	Houses.
8	Society Road	Houses.
9	South Scotstoun	Houses, or maintain in agriculture.
10	North Scotstoun	Dundas Park extension, or houses.
11	Dalmeny	Houses.
12	Station Road	Open space, houses or maintain in agriculture.
13	Hopetoun Road	Light industry, small businesses, offices or hotel.
14	South-east Echline	Prestige industry, small businesses, offices or hotel
15	High School	If not needed for school, then houses or light industry.
16	Echline R.C. Primary School	If not needed for school, then houses, offices or light industry.
17	Disused railway	Footpath.



Aerial View *Crown Copyright reserved. R.A.F. photograph 106/2 October 1979*



"Other sites with industrial and commercial potential include those at Hopetoun Road (Site 13)."



Housing, garaging or open space? (Catherine Terrace, Site 6).

PLEASE WRITE TO
THE DIRECTOR OF PLANNING, THE CITY OF EDINBURGH DISTRICT COUNCIL, 18 MARKET STREET, EDINBURGH
BY FRIDAY 22nd AUGUST 1980.

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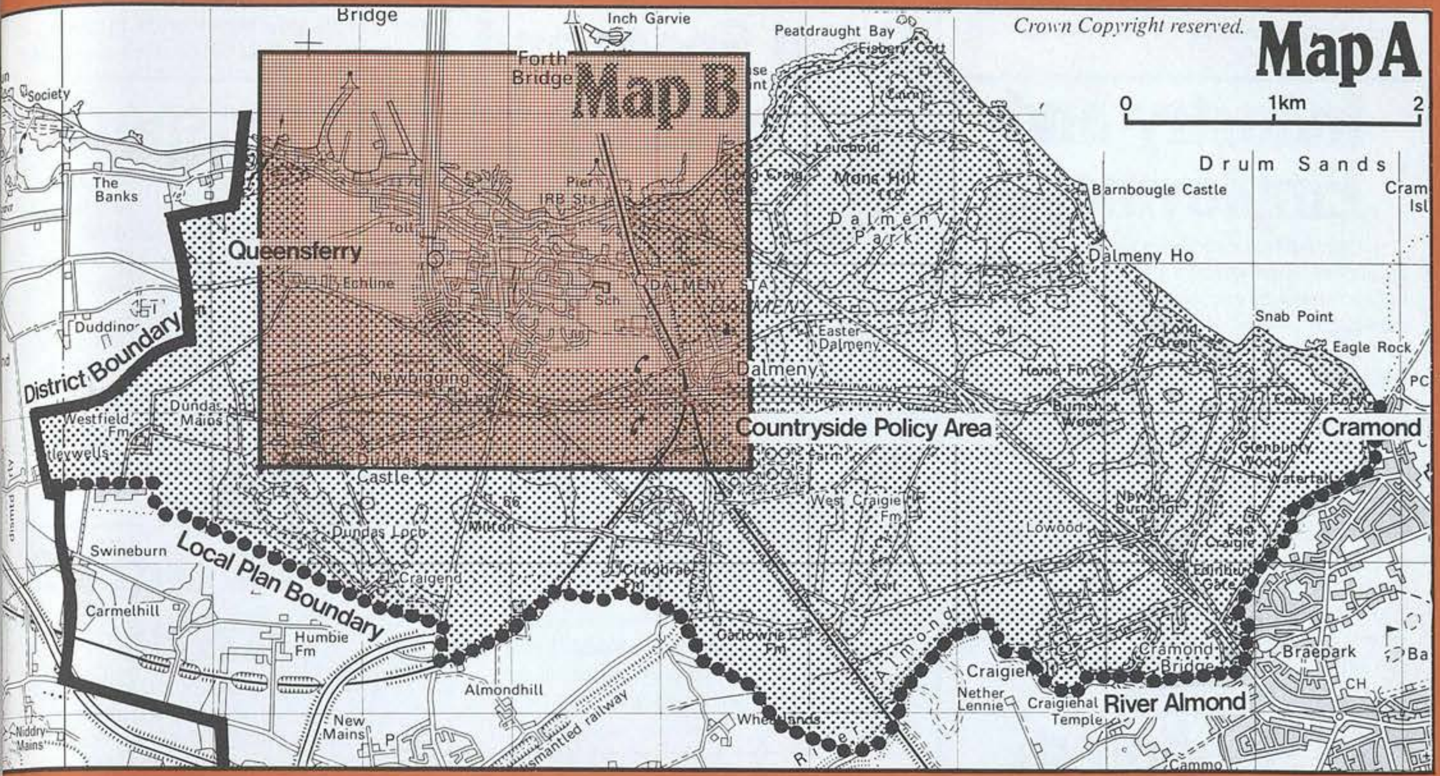
QUEENSFERRY LOCAL PLAN

Please use this sheet to comment on the Discussion Paper. Return it by Friday 22nd August to The Director of Planning, The City of Edinburgh District Council, 18 Market Street, Edinburgh EH1 1BJ or telephone 031-225 2424 ext. 6274

Name	Address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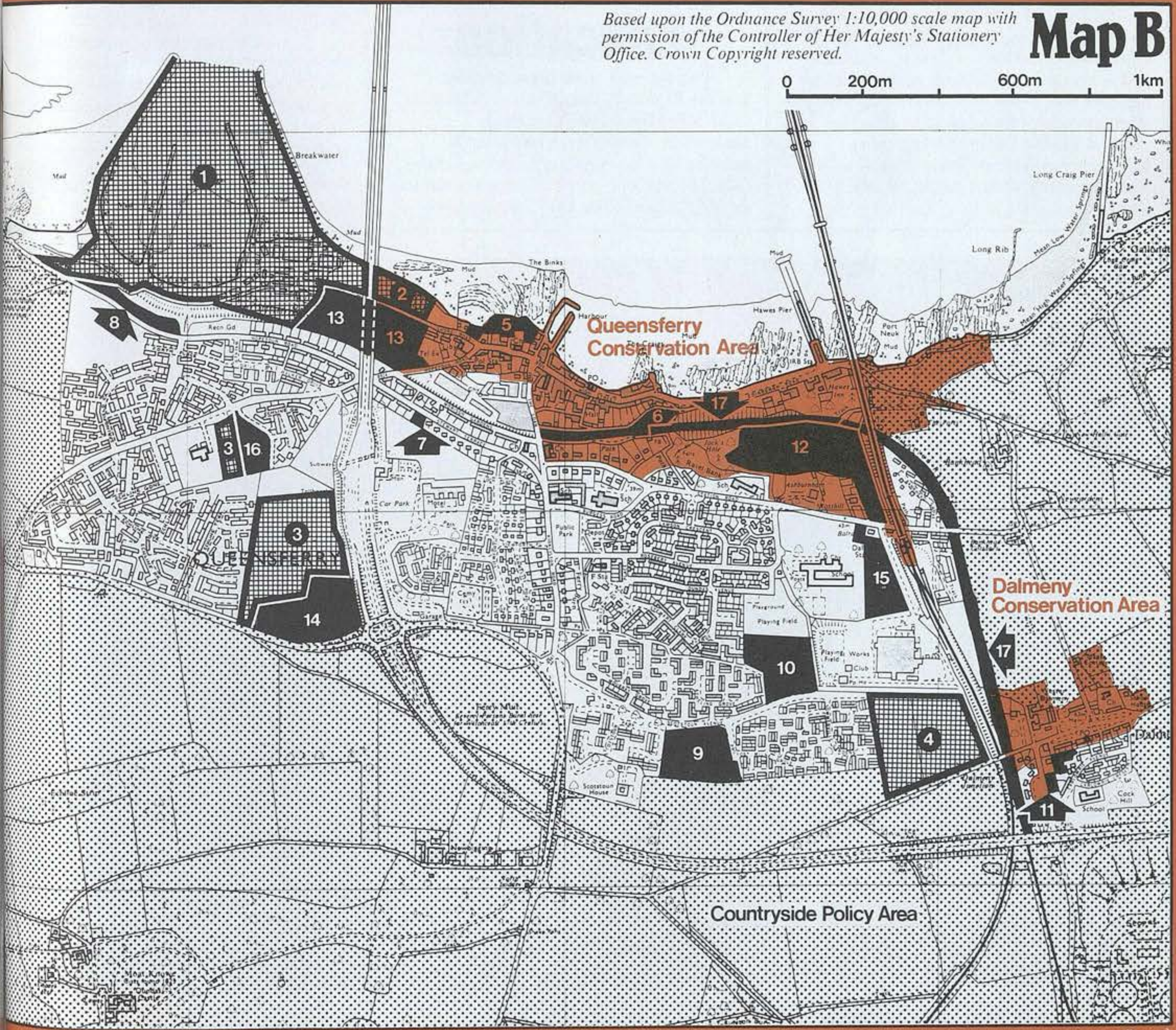
Map A
0
1km
2
Map B
Queensferry
District Boundary
Countryside Policy Area
Cramond
Local Plan Boundary
River Almond
Drum Sands
Barnbougle Castle
Dalmeny Ho
Snab Point
Eagle Rock
Forth Bridge
Inch Garvie
Peatdraught Bay
The Banks
Swineburn
Carmelhill
Humbie Fm
Almondhill
New Mains
Dismantled railway
Dundas Loch
Craigiehall Temple
Braepark
Nether Lennie
Cramond Bridge
Westfield Fm
Lowood


Based upon the Ordnance Survey 1:10,000 scale map with permission of the Controller of Her Majesty's Stationery Office. Crown Copyright reserved.
Map B
0
200m
600m
1km
Queensferry Conservation Area
Dalmeny Conservation Area
Countryside Policy Area
QUEENSFERRY
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
Breakwater
Long Craig Pier
Long Rib
The Binks
Hawes Pier
Port Neuk
Harbour
Public Park
Car Park
Playing Field

landscaping scheme for the waterside land should be retained.

Industry and Employment

Queensferry provides a significant amount of employment for its size and existing industries will be encouraged to expand. A substantial amount of land is being reserved for further growth by Hewlett-Packard **(Site 4)** and planning permission has recently been given for a 100,000 sq. ft. extension on land to the south of their factory.

Other sites with industrial and commercial potential include those at Hopetoun Road owned by Lothian Regional Council (Site 13, below the Forth Road Bridge, see photograph) and at the south east corner of Echline **(Site 14).** Planning policies for Queensferry could give special emphasis to encouraging smaller firms, new offices, prestige industries requiring high amenity sites, or another hotel.

Shopping

The District Council will support the continuance of the High Street as the main shopping centre but could also encourage other commercial uses, if there is a demand, and if these will help to bring empty buildings back into use. Elsewhere, once the current planning consent for a new local shopping centre at Echline has been taken up, any further shopping development is likely to be limited to corner shops, should the demand arise.

Open Space and Recreation

The overall aim for all housing areas is an open space provision of between 3 and 4 acres for every 1000 people. To achieve this standard in Queensferry sites are being reserved for local parks at Echline and North Echline but a further 2 to 3 acres of recreational ground would be needed in the North Scotstoun area. This shortfall could be made up on one of several sites indicated on the map **(e.g. Site 10 or 12)** with perhaps an extension of Dundas Park onto the adjoining land **(Site 10)** being the preferred option.

Lothian Regional Council has bought the old Port Edgar naval base **(Site 1)** for conversion to a yachting marina. This will become a recreational centre of regional importance.

The District Council has acquired the former Flotilla Club on Shore Road **(Site 2)** to provide a local community centre but no date has yet been set for the necessary alterations.

Social Work and Education

These are the services provided by Lothian Regional Council, who will be asked to advise on their future land needs. Meanwhile sites are being provisionally reserved for a new primary school at Echline **(Site 16)** and for a possible future extension of the High School **(Site 15).** Other possible future needs are a hostel for the mentally handicapped and an old people's day centre.

Transport

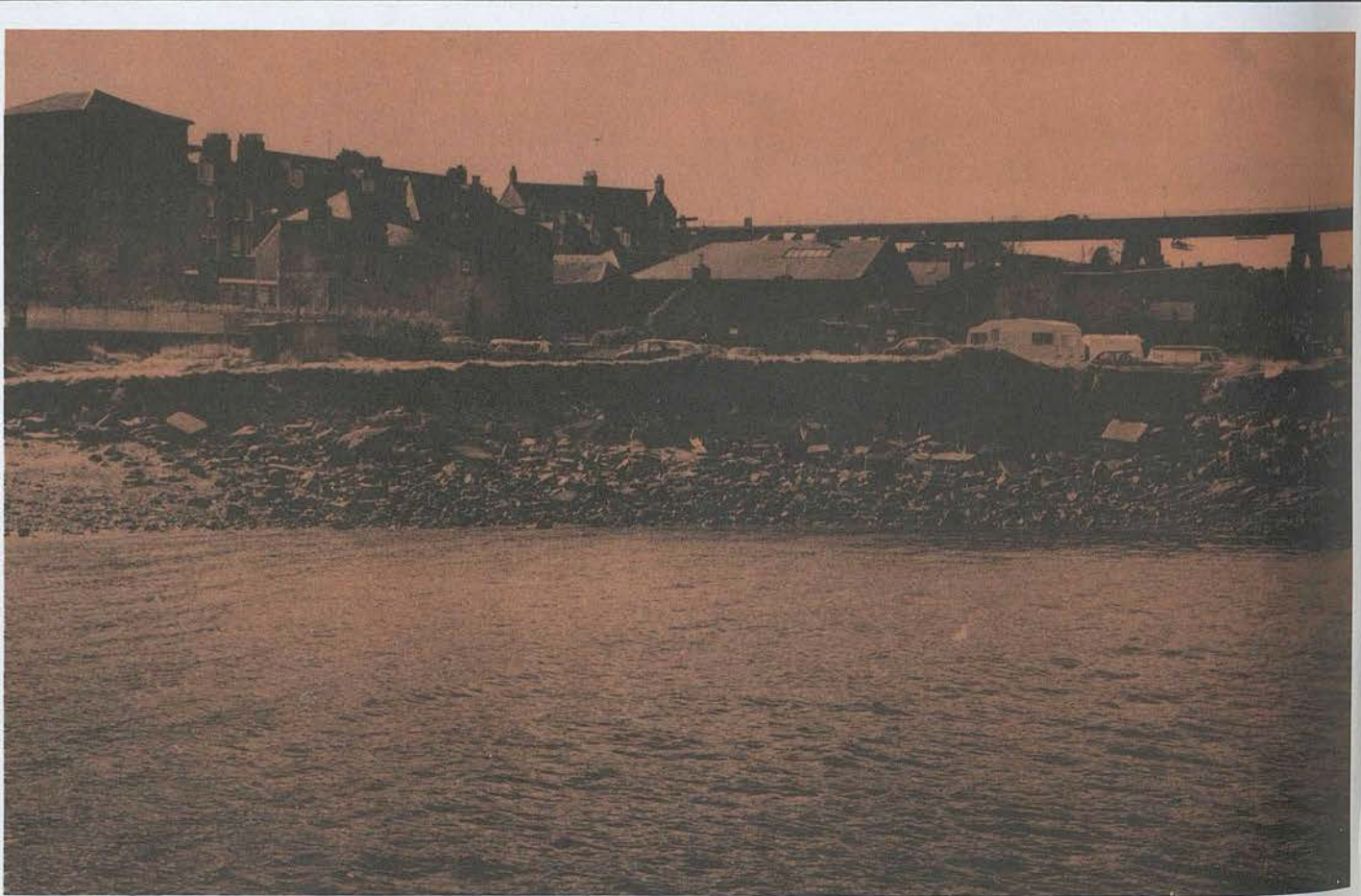
Lothian Regional Council is also the highways authority. No major new roads are proposed but the local plan gives an opportunity to consider local needs such as alterations to the existing traffic and parking arrangements in the High Street, the scope for making special provision for cyclists, or the possibility of installing lighting on Lovers Loan. The section of Lovers Loan between Scotstoun and Dalmeny is to be re-routed around the west and south sides of Hewlett-Packard's reserved land when their factory extension is built.

Conservation Areas

Parts of Queensferry around the High Street and Dalmeny are now conservation areas. The final plan will include the District Council's strict development control policies for these areas to maintain their traditional character and to secure sympathetic design for new buildings.

Guidelines have been prepared and publicised for the Queensferry Conservation Area. If necessary, design briefs will be prepared for sites likely to be developed in the conservation areas.

Your views and comments on any or all of the points raised in this discussion paper are now requested.



"The District Council wishes in particular to see some improvement to . . . the Binks (Site 5)."

PART OF UNIT	SEQUENCE OF INTERMEDIATE CONCEPTS	POSSIBLE METHOD	SKILLS PRACTISED	DEGREE OF STRUCTURE OF MATERIALS	WHOLE CLASS GROUP OR INDIVIDUAL STRATEGY
(E)	Housing tends to get 'worse' before it gets 'better' and families often have little choice but to move to newer housing	Tape/slide simulation of one family's dilemma [96] Write up two differing viewpoints expressed by members of the family	Listening (critically) Writing	(Raw resource) Unstructured	Class (could also be used by individual or small groups) Individual
		Discuss and arrive at consensus view within each group. (Each member given role card). Each group represents one family faced with choice of moving or staying on. Decisions taped	Listening Discussing Decision-making	Semi-structured	Group
(F)	(awareness) of Loss of population and environmental decay can be checked by planing land use but lack of money can halt progress, or restrict choice.	If S.S.H.A. have to abandon their building programme in South Side, work out what proportion of 'new' housing this is likely to represent. Find where these areas are.	Numeracy Map reading	Structured resources (derived from Local Plan)	Individual
		Study plans for area marked 3 off West Nicolson Street. Exercise based on newspaper article. [97] (see p.81)	Map reading Reading Comprehension	Raw resource structured exercise	Individual

SAMPLE ITEMS FOR DIAGNOSTIC TEST No.2

1. PROS AND CONS OF MOVING HOUSE

Write down three advantages of living in the Nicolson Street area of South Side.

Write down three reasons why your family might prefer to live in Wester Hailes.

2. IMPROVING THE ENVIRONMENT COSTS MONEY - (Try this question only if you want to)

You are a member of the District Council Planning Committee which is faced with the problem of lack of money. The Council bought an area of very sub-standard housing, just off Nicolson Street. They planned to rehabilitate these houses. The houses were sound (in structure), but not of architectural value. Almost all the people living in the houses have been rehoused. Money will not be available for 5 years. A company is willing to buy the land, knock down the old houses and build a petrol-filling station.

Can you think of two (or more) arguments you might put forward for the filling station?

Can you think of some arguments you might put forward against the filling station?

POST-TEST REMEDIAL WORK

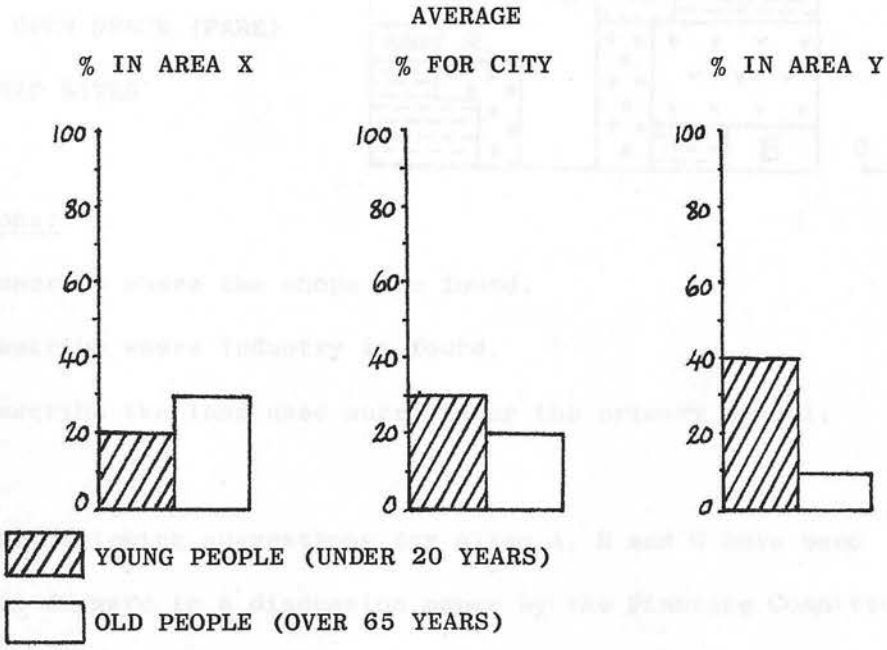
1. Although question one required a more subjective type of answer than is usually called for, some pupils might have found difficulty in presenting their arguments. Either individually, or as a small group, these pupils could have a second look at the slides of the

contrasting environments (E), a bus map of the city showing their locations, and play back one or two of the tapes which summed up group discussions (E) on this topic.

They could then be asked to compare the two areas, but some possible headings could be given e.g. condition of houses, cost of housing, cost of transport to city centre, facilities nearby, nearness to friends etc.

EXTRA WORK No.1 - DEPOPULATION

Fig.(ix)



Answer the questions:

(a) Which area, X or Y has the higher % of old people?

(b) What is the average % of young people in the city?

(c) Which area X or Y has a % of young people higher than average?

(d) Which area X or Y has probably suffered from people leaving the area (depopulation)?

(e) Which area X or Y is more typical of South Side at present?

(f) Why are young people more likely to move out of a decaying area than old people?

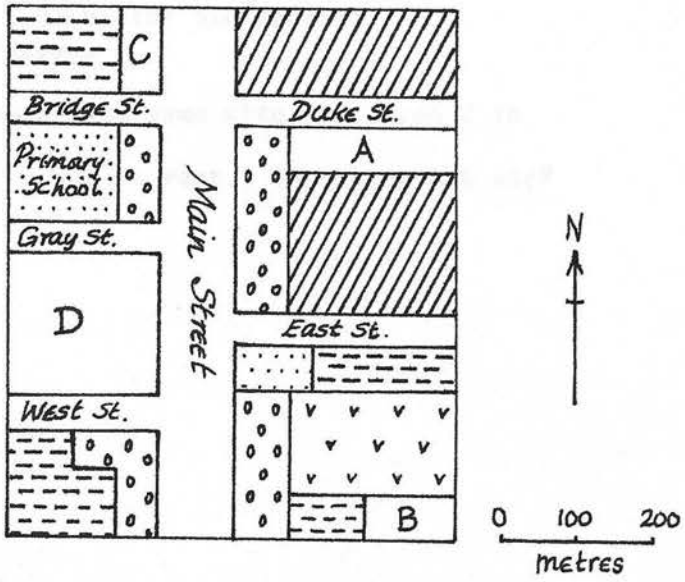
EXTRA WORK No.2 - LAND USE, LOCATION AND LAND VALUE

You are a member of a local action group concerned about the possible use of 4 gap sites in your area (one of which marked D on the map is quite big).

Key to Land Use

- HOUSING
- INDUSTRY
- PUBLIC BUILDINGS
- SHOPS
- OPEN SPACE (PARK)

A-D = GAP SITES



Questions:

(a) Describe where the shops are found.

Describe where industry is found.

Describe the land uses surrounding the primary school.

(b) The following suggestions for sites A, B and C have been put forward in a discussion paper by the Planning Committee of the District Council:

light industry, nursery school, shops, houses, carpark.

Which land use would you most favour for each site. Why?

Area	Suggested Land Use	Reason(s) for choice
A		
B		
C		

(c) The District Council has bought site D for a large sum of money. They need to get this money back in rates. Which three of this possible list of uses would probably bring in least rates?

Community centre; multi-storey car park; park; sheltered housing for old people; hotel; shops; offices.

(d) Areas B and C are just about the same size, yet area C is more costly than area B to buy or rent. Can you think why?

PLENARY SESSION

This session could be enhanced by a wall-display of pupil-work (photos, maps, graphs, flow-charts) and newspaper cuttings used in the unit. Excerpts from the various tapes used and prepared during the unit could also be played. (Slow learners often show little interest in taped material of an impersonal nature, but have a fascination for hearing themselves and their classmates on tape. The same appears to be true of wall displays of their work). The teacher's role in this session would be to ensure that the main concept and the intermediate objectives had been fused in the pupil's minds. (If some pupils were absent it might be useful to tape the whole plenary session for the benefit of individual absentees; this summary tape could also be used to help pupils revise if this material were liable to be tested at a later date).

SOME ADVANTAGES OF THIS LEARNING STRATEGY (see Fig. (vi))

This strategy allows for a variety of learning tasks to occur within an overall structure; topics, tasks, concepts, methods may change and vary but some predictability can be built into the learning situation by adopting some form of supporting framework to provide a feeling of security for pupils, and a way of knowing how their learning tasks fit together. Once they understand the framework they may show some initiative in moving from one task to another, so avoiding a feeling of complete dependence on the teacher and also the 'dead' time which can occur if pupils have to wait for instructions. (The combination of predictability and flexibility in the learning situation is also useful in relation to pupil behaviour; it is only human for pupils to take advantage of a lack of consistency in what is seen by the

teacher as acceptable or unacceptable behaviour).

The provision of at least one alternative way of exploring an idea gives slow learners the opportunity to relearn, or in the case of those who have grasped the idea only tenuously, the chance to reinforce learning. The ability range in a class of slow learners can be quite wide, and consequently while some may require to work their way through both approaches suggested and the further work of a remedial nature, others may have grasped the idea quite well after only one 'exposure'. In some cases - for example if the pupil feels competent enough - the second approach could be side-stepped to allow this pupil to get on to more demanding extension work, but in most cases it is envisaged that both approaches would be attempted by pupils in an effort to overlearn an idea, and to investigate the same idea in a different way using a different set of skills.

One of the practical advantages of having two alternative approaches available is that it can accommodate the higher absence rate which is common among adolescent slow learners more easily than a strategy in which pupils are offered only one chance to master each objective. Any strategy which depends on a 100% attendance rate (for success with slow learners) is more likely to run aground on the twin shoals of non-motivation and lack of understanding than a strategy with greater in-built flexibility. Absentees could short-circuit some parts of the unit and so catch up. They would have missed opportunities in skill development but would perhaps have managed to avoid complete lack of understanding. It would be hoped however that the increased chance of success provided by the curricular design would have an ameliorative effect on poor attendance.

The learning strategy outlined in Fig (vi) could work for whole-class teaching, group-work, individualised learning or a

mixture of all three techniques. The examplar uses all the three techniques in a complementary fashion, since as each method has its strengths and weaknesses, it might be unwise to concentrate on any particular one. The Inspectorate's Report on the education of pupils with learning difficulties remarked on the overemphasis given in Scottish Secondary Schools to whole-class teaching[98]. Whole class teaching from the teacher's point of view has the attractions of requiring much less preparation and causing fewer obvious class-management problems (since the class are 'kept together') than a strategy such as the one shown in Fig. (vi). But it can encourage a blurring of individual differences. When classes contain 'difficult' or 'disruptive' pupils (as is common among slow learners) it is all too easy to assume that one has discharged one's duty when one has 'taught' a lesson, irrespective of the potential miscellaneous level of pupil learning. Hargreaves mentions three typical methods of dealing with 'difficult' classes (almost always low-streams) he encountered in his study. All three appear to be linked at least a little, to the teachers' apparant inability to move outside the role of didatic pedagogue. The first type of teacher, when faced with disruption, attempted to drown out the noise by lecturing in a loud voice, the second type imposed rigid discipline and silence while the third type of teacher tended to opt out of the mêlée and salve his conscience by marking work or undertaking some other teaching-type of activity. In the resulting atmospheres of mere mutual toleration or outright hostility Hargreaves found little or no learning taking place[99] (Would it be too much of a supposition to suggest that if Hargreaves hadn't been attending these classes as a particpant observer, some of these teachers might have found ingenious methods of getting themselves out of their classrooms?).

Whole-class teaching can, on the other hand, be used to good effect, perhaps especially at the start and finish of a unit of work. When dealing with a class as a whole however, it is often difficult to encourage orderly discussion: Brennan points to the reluctance he found among teachers of slow learners to give pupils a chance to talk. He found a high proportion of class 'talk' was in the form of teacher-directed questions requiring only a yes/no answer, most commonly directed at individuals. He suggests that pupil/teacher and pupil/pupil interaction could be enriched by positively seeking and using verbal responses from pupils, encouraging divergent thinking around ideas, refraining from direct verbal correction by asking a further question which encourages rephrasing, and using mature statements subsequently rephrased if necessary.[100] Secondary teachers possibly are more reticent in encouraging discussion than primary teachers due to pressures of period bells and tight examination schedules. Discussion time is more likely to be viewed as time wasted - for which one should feel guilty - than a lesson in which the visible vestments of learning, pencils, books, jotters and such like are displayed.

Both interaction studies and discussion techniques have a growing literature of their own. Could it be envisaged that each school, or even each subject department or faculty would have one member of staff with expertise in this field which could be passed on to his colleagues? Once more there is a need for in-service teacher education. It is likely that slow learners would need practice in listening skills, in compromising, in reaching a consensus view, in rendering dialogue and in each separate discussion skill before they could use discussion times to good effect.

Group-work can facilitate oral practice and encourage the development of social skills in a variety of settings. The level of group interaction and collaboration can vary with the task, for

example problem-solving and decision-making exercises may require more co-operation between group members than role-playing or practical work.

Individualised work on the other hand does not encourage such social behaviour but has the twin advantages of allowing pupils to work at their own pace and of encouraging pupil-teacher contact on a one-to-one basis. It is useful, if using a strategy such as Fig. (vi) to have individualised work available at points in the learning strategy such as (D) and (F) as, by this stage, just before the diagnostic tests, the greatest divergence occurs in the amount of 'core' work covered by the most 'able' and least 'able' pupils in the class. A whole-class learning approach at this time could cause frustration to both these categories.

Other criteria, such as the time of the week the lesson occurs (for example Monday morning or Friday afternoon) can help decide which strategy to use at which time. From the behaviour point of view, one is less likely to dread that hour spent with 3D last thing on Friday if individualised work is available instead of a whole-class lesson.

So far consideration has been focused on three of the four stages outlined on the (modified) objectives model Fig. (ii), namely on aims, objectives and on the organisation of learning experiences. But what of the fourth stage, evaluation? It would be simplistic to see this process as the final stage, because as the model suggests, the process is a cyclical one with feedback from the evaluative phase providing the fine-tuning for the other three parts of the system.

Curriculum evaluation is an expanding field with a literature to match, and could provide yet another area for shared expertise within a school. Part of such an expertise would encompass assessment.

It seems possible that quite a large proportion of the Foundation level examination will be of an internal nature. (The Dunning Report recommended 25% but the Inspectorate's Feasibility Study suggested that, due to the lack of expertise in externally examining at this level, it might be necessary to depend more heavily on internal assessment, at least initially.[101]). McGettrick suggests that there will have to be a shift from norm-referenced to criterion-referenced (external) exams at Foundation level. He also suggests that a variety of testing techniques will be required but that validity and reliability will prove to be a problem at this level, since a test item may be more a test of literacy and numeracy than a test of conceptual development. He sets out the various problems and advantages, as he sees them, in using both written and oral examinations with slow learners.[102] Both the English C.S.E. Mode III and the new Geography O level will perhaps prove to be more useful models than the Scottish O grade, the C.S.E. for its level of 'clientele' and the new O level for its combination of internal and external syllabus construction and assessment. Some broad issues in assessment are at present part of the S.E.D. research programme, for example:[103]

- development of diagnostic tests
- problems of criterion-referenced assessments
- problems of external examining at Foundation level
- development of school-based assessment using item-banks
- development of means of assessing practical skills
- development and evaluation of an attitude/interest profile.

Internal and external assessment of a summative nature, with its purpose of ranking pupils vis-à-vis each other, is however only part of assessment. There are other purposes such as diagnosing, guidance and reporting. The Inspectorate's report on slow learners suggests that "school-based tests....can do more than measure attainment and grade pupils: they can be used to diagnose difficulties, contribute through analysis of need towards the provision of appropriate help for pupils who may not be scoring well in them, and so help to improve their performance."[104] It goes on to say that, in relation to slow learners, "assessment should match their capabilities. Pupils should be fully prepared for any form of assessment which they are asked to undergo."[105]

In relation to assessing skills and concepts and the level of actual outcomes compared to anticipated outcomes, McGettrick suggests the objectives model can be useful.[106] The sample of diagnostic test items which form part of the exemplar attempt this task, some items requiring a structured response (mainly in the case of knowledge, skills and simple understanding) and some items inviting a somewhat freer response. Neither approach is free from problems when testing slow learners. In the former reading difficulties may call for extra vigilance on the part of the teacher; in the latter writing problems may inhibit the expression of understanding. In both cases some aural testing can help redress the balance. Weber suggests the use of "short and frequent tests, set by individual teachers, structured for success, structured to help those who tried."[107] He also argues that tests set for slow learners tend to be tests of recall - the slow learners' 'bete noire' - while tests which incorporate the concrete illustrations needed by slow learners are few and far between.[108]

The problems of assessing the cognitive domain are, however,

only part of the problem. Subjectivity becomes a major problem when attempting to measure success in the affective field, for example in measuring "showing concern for others" or "developing collaborative relationships." Research is still proceeding in this area, but the ideas put forward in books such as "Pupil Profiles"[109] have had a mixed reception from teachers. Indirect assessment of an informal nature can be done for example when pupils are working in groups but it is more difficult to cope with subjectivity in those instances than when assessing the more cognitive outcomes.

Any system of assessment will depend for its success not only on its varied modes, its validity and reliability, its handling of subjectivity, but also on the efficacy of the system of recording adopted. Slow learners may need rapid feedback, but parents and guidance staff need information about performance periodically, and the teacher himself needs to be able to see not just the individual pupil 'profiles' but also the overall patterns of achievement within a class in order to evaluate his aims, his objectives and the learning experiences and test items he has devised. The Schools Council survey found that, in practice, "records were almost entirely limited to end-of-term general reports and individual records of reading recognition tests"[110] and that it was "exceptionally difficult to relate these records to the curriculum which the pupil had followed...and they failed to provide a basis for assessment of either the appropriateness of the curriculum or the pupil's success in achieving the aims or the objectives proposed for him."[111]

The area of assessment and evaluation, so vital in the evolution of sound curricula through its capacity to generate feedback, is one in which teachers will require much in-service help in the future.

9. CONCLUSIONS

This dissertation has attempted to explore the symbiotic nature of the relationship between theory and practice in the somewhat neglected area of curriculum planning in geography for slow learners in S3 and S4. This has required an analysis of what geography teachers can contribute to the education of the slow learner, both in the general educational and specific subject contexts, and of their particular learning problems. These aspects have then been accorded a degree of animation in an exemplar on the Environment, an area of study fairly central to any course in secondary school geography.

The suggestion was made that conceptual development is as important at Foundation level as at any other more advanced level, but that the range of concepts may need to be limited in number and complexity. Learning experiences, it was argued, need to be organised so as to allow the re-learning and reinforcement of concepts, with fresh approaches devised to maintain pupil motivation.

Skill development in the cognitive sphere was also emphasised. Arguments for the introduction of slow learners to levels of thinking beyond knowledge and simple comprehension were backed up by practical suggestions in the exemplar. The basic skills of oral competence, reading, writing and computation however were not overlooked. Along with inter-personal skills they were considered a vital part of any curriculum for slow learners, partly for their intrinsic utility but also for the effect they have on levels of pupil confidence and self-esteem.

Some areas in curriculum planning at Foundation level

will require a research input before policy-decisions can be made. In assessment and evaluation for example, many techniques such as criterion-referencing, internal moderation, item-banking and diagnostic testing, are still at a fairly embryonic stage of development. Much in-service training on curricular design and methods will also have to be undertaken. It would perhaps be useful to have a system whereby regional and national in-service agencies were more explicitly linked so that new ideas and expertise could flow more freely throughout the system.

Curriculum design at Foundation level offers a great opportunity and challenge to all involved in Scottish secondary education. It would be regrettable if the 'new wine in old bottles' principle were followed to the extent that the new Foundation course amounted to little more than a 'pastiche' of the 'O'grade, an exam which has proved to be totally inappropriate for the slow learner. Solving the problems of overlap and differentiation of Foundation, General and Credit level courses is a subsidiary issue, and should surely not be allowed to cloud the vision of those given the arduous task of formulating the guidelines for Foundation courses. There would seem to be little point in tinkering with the superstructure of a curriculum if the foundations, the basic design criteria and assumptions, have not been carefully mapped out.

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Second Phase Proposals (6–10 years)

Plan Number	Ref. to Written Statement	Proposal
13	2.7.2	National Library – proposed extension
14	2.7.6	University development site

LOCAL PLAN BOUNDARY

CONSERVATION AREA BOUNDARY

CONSERVATION CORE AREAS

POLICY BOUNDARY

THE FOLLOWING REFER TO DEVELOPMENT CONTROL POLICY AREAS AS DETAILED IN THE WRITTEN STATEMENT

Category	Summary of Policy
HOUSING and COMPATIBLE USES	Existing residential character to be retained. Appropriate uses on redevelopment include housing, social and other public services, shops and light industry.
MIXED USES	Commercial area in which shops, offices and housing are the appropriate uses on redevelopment.
INDUSTRY	Mainly industrial areas in which industry and warehousing are the appropriate uses on redevelopment.
EDUCATION	Existing secondary school premises to be retained.
INSTITUTIONS	Area of major public / educational establisnment. Development for these purposes to be contained within areas defined.
OPEN SPACE	No development permitted.
CAR PARK	Land safeguarded for development as car parks by Lothian Regional Council.

POLICIES WHICH APPLY TO THE WHOLE LOCAL PLAN AREA ARE DEFINED IN PARAGRAPHS 2.1.5, 2.2.3, 2.3.4, 2.4.6, 2.5.3, 2.7.5, 2.9 3

0 FEET 500 1000

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THE CITY OF EDINBURGH DISTRICT COUNCIL
PLANNING DEPARTMENT
18 MARKET STREET
EDINBURGH EH1 1BJ

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HOUSING and COMPATIBLE USES
INSTITUTIONS
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EDUCATION
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INSTITUTIONS
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HOUSING and COMPATIBLE USES
CAR PARK
INDUSTRY
HOUSING and COMPATIBLE USES
OFFICES
SCIENNES
Holyrood Park
Holyrood Park
Royal Infirmary
Royal Infirmary
EAST MEADOW PARK
West Meadow Park
Kaim Head
MELVILLE DRIVE
QUEEN'S DRIVE
EAST CROSSCAUSEWAY
BUCCLEUCH PLACE
WEST PRESTON STREET
EAST PRESTON STREET
SOUTH CLERK STREET
OXFORD STREET
LUTTON PLACE
MONTAGUE STREET
RANKEILLOR STREET
WARRENDER PARK ROAD
SCIENNES ROAD
MELVILLE TERRACE
ARGYLE PLACE
ROSEBERY CRESCENT
ROYAL EDINBURGH HOSPITAL
St Katherine's Works (engineering)
Royal (Dick) Veterinary College
Bonded Stores
Park Brewery
Printing & Binding Works
Pollock Halls of Residence / University of Edinburgh
Royal Commonwealth Pool
Holland House
Brewster House
East House
Appleton Tower
McEwan Hall
University Medical School
George Watson's Ladies College
Carnegie Court
James Clark School
Nelson Hall
St Leonard's Lodge
Fountain
Bowling Green
Tennis Courts
Playground
Pavilion
Car Park
Garage
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Church
Hall
Library
Repository
Nursery
Playground
Bank
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Chapel
Cemetery
Gardens
Lodge
Gate
Steps
Path
Fence
Wall
Railway
Tunnel
Bridge
Fountain
Statue
Monument
Memorial
Sculpture
Public Toilets
Telephone
Post Box
Fire Station
Police Station
Hospital
Clinic
Surgery
Dispensary
Mortuary
Crematorium
Cemetery
Allotments
Golf Course
Putting Green
Bowling Green
Tennis Courts
Playground
Pavilion
Changing Rooms
Swimming Pool
Sports Ground
Athletics Track
Football Ground
Rugby Ground
Cricket Ground
Hockey Ground
Basketball Court
Netball Court
Volleyball Court
Squash Court
Badminton Court
Table Tennis
Gymnasium
Fitness Centre
Sauna
Solarium
Jacuzzi
Steam Room
Massage
Beauty Salon
Hairdresser
Barber
Tailor
Dressmaker
Shoe Repair
Jeweller
Watchmaker
Optician
Chemist
Pharmacy
Dentist
Doctor
Vet
Undertaker
Florist
Garden Centre
Nursery
Pet Shop
Aquarium
Zoo
Museum
Art Gallery
Library
Theatre
Cinema
Concert Hall
Opera House
Ballet
Dance
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Photography
Film
Video
Television
Radio
Newspaper
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EDUCATION
CAR PARK
CANONGATE
OLD TOWN
Holyrood Park
Holyrood Park
SSHA (115)
SSHA (75)
CANONGATE
HOLYROOD ROAD
QUEEN'S DRIVE
HIGH STREET
COWGATE
CHAMBERS STREET
SOUTH BRIDGE
GEORGE IV BRIDGE
GEORGE SQUARE
LAURISTON PLACE
MIDDLE MEADOW WALK
EAST CROSSCAUSEWAY
WEST CROSSCAUSEWAY
BUCCLEUCH PLACE
SALISBURY STREET
BROWN STREET
ST LEONARD'S STREET
Royal Scottish Museum
Old College University of Edinburgh
Heriot Watt University
St Giles' Cathedral
Royal Infirmary
McEwan Hall
University Medical School
George Watson's Ladies College
Appleton Tower
Greyfriars Church
Moray House College of Education
Brewery
Pleasance Trust
Deaconess Hospital
James Clark School
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The CITY of EDINBURGH DISTRICT COUNCIL

SOUTH SIDE LOCAL PLAN

PROPOSALS MAP

LEGEND

First Phase Proposals (1-5 years)

Plan Number	Ref. to Written Statement	Proposal
1	2.2.4.	Housing development/rehabilitation
2	2.2.4.	Private housing redevelopment anticipated during plan period
3	2.8.2.	Housing development and community centre
4	2.7.6.	Dental hospital and school
5	2.6.2.	Primary school
6	2.7.6.	University of Edinburgh – sports hall
7	2.7.6.	Institute of Occupational Medicine – extension
8	2.7.6.	Royal College of Surgeons of Edinburgh – redevelopment/rehabilitation
9	2.4.5.	Road widening and improvement of junction
10	2.4.5.	Car park
11		Cycle route
12	2.9.4.	Public square – access to pedestrians and cyclists only

Second Phase Proposals (6-10 years)

Plan Number	Ref. to Written Statement	Proposal
13	2.7.2	National Library – proposed extension
14	2.7.6	University development site

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