RESPONSE to the DRAFT PROPOSALS
for the NATIONAL CURRICULUM.

Education 2000 is pleased to respond to the request from SCAA to participate in the consultation on the National Curriculum.

Education 2000 is a Charitable Foundation concerned to create a less dependent, more vital, enterprising and creative society through strengthening people's confidence in their ability to learn, so as to be adaptable and flexible. Our central belief is that every child has to learn how to learn in such a way that each develops a range of skills which he or she can apply with confidence to changing and unfamiliar situations at any time in their lives.

This emphasis on "learning-how-to-learn" merits an explanation. Traditionally schools have been concerned with the transfer of culture, and the development in pupils of a range of skills, habits and attitudes evolved from the experience of earlier generations. The pace of change is now so great, however, that this is no longer adequate; young people have to be equipped "to go where none of us has been before".

Schools therefore have an additional task; they have to start a dynamic process through which pupils are progressively weaned from their dependence on teachers and institutions and given the confidence to manage their own learning, co-operating with colleagues, and using a range of resources and learning situations.

This places an ever increasing load on the curriculum.... but it is one, the Trust believes, which has to be faced squarely and quickly. So rapid is the growth in information, and so diverse are the explanations of its significance, that a curriculum designed to cover all major components of knowledge is no longer a possibility - there is just too much for young people of school age to handle if they are not to be 'swamped' in the process. **More than ever it is necessary for the curriculum to strike a balance between the transfer of culture and well-practised conventional skills, with a far more rigorous attempt to give young people a much greater mastery of the skills of life-long learning.**

Given the very particular interests of Education 2000 in the whole issue of learning, it would not have been appropriate for us to reply using the official proforma. Such a process would have limited our response to what would, very quickly, have become a series of disconnected, or repetitive, statements across a range of separate subjects.

A consultation process such as this can be a valuable means of allowing all those professionally concerned with education the opportunity of responding to the proposals, so long as the methods chosen to analyse the responses allow for the variety and complexity which will result. All too often when coders attempt to fit reasoned arguments into predetermined categories it is at the expense of the depth and richness which has supported them. It is hoped that all opinions will be noted, and that a rigorous approach will be adopted to the construction of the coding frame so that comments which cannot be easily categorised will also be subject to a more careful analysis.
We will, in recognition of the numerous responses you will no doubt receive, restrict our comments to that which can readily be understood in a single reading of no more than twenty minutes!

The Need to Understand how Learning takes place

Education 2000 believes that it has been the priority historically given to the study of separate disciplines over and above the study of how to equip young people, quite explicitly, with the skills of learning, which has largely created the present crisis in education. To continue a reform process that assumes that the current subject disciplines are the appropriate framework for "learning how to learn", and which assumes also that the skills needed to be creative and productive in the 21st Century automatically - by some process presumably of osmosis - grow out of these disciplines is, we are convinced, ill-founded.

Education 2000's interest in the whole issue of learning, and the development of skills that will be appropriate throughout life, has deepened from the experience gained from its own projects. This has merged with the study the Trust has been making over the last three or four years, at an international level, of work on effective learning, and the operation of the brain as a learning mechanism.

Interest in the systematic study of how learning takes place - drawing now as much upon the physical and biological sciences as earlier it had on philosophy and psychology - is intensifying world-wide. These emerging insights may sound strangely familiar to the intuitive experience of many teachers, but these findings are now supported by evidence that links effective learning to the ways in which the brain has evolved naturally as a learning mechanism.

These findings emphasise the individual's personal search "to make sense" of everything which he or she experiences, and to relate such new ideas to what is - personally - already known. Learning therefore emerges more as a matter of knowledge construction, than it does of knowledge transfer or acquisition. The brain searches for what is significant to its own well-being, intellectual inquisitiveness, and survival. The brain is able to focus on single issues but, even at its most engaged, it is constantly alert to peripheral ideas and multiple perspectives. From the earliest times, learning has evolved as a social, collaborative, problem-solving activity where the experience of each individual is used within a team/clan/tribe or family situation to strengthen the group's ability to search for ever-better "solutions".

The brain learns best it seems, and grows to learn more, when it is exercised in highly challenging but low-threat environments. Learning, as it is emerging from biological research, is the human's intellectual response to its environment (as with a tree reaching for the sunlight in the rain forest). Fear and threat reduce the brain's ability to act at a sophisticated level, and reduce its possible options to concerns of mere survival. Coerced to operate against its own judgement, and self interest, the brain becomes sluggish, stubborn and just "plain stupid".
Learning is essentially a reflective activity. It is this which enables the learner to draw upon previous experience, to understand and evaluate the present so as to shape future action and to formulate new knowledge.

Earlier 'input-output' concepts of learning, stimulated by insights within the last thirty years from computer technology, are being replaced (but by no means uniformly) by models of learning which emphasise the diversity of "ways of knowing", and formulating new knowledge. With the increasing realisation that "knowledge" is continuously evolving, "facts" assume less significance as connections between ideas and their varying contexts becomes more significant.

Key questions have now to be answered about the "commercial" values of schooling, over and above the acquisition of tools of basic functional literacy; i.e. in what ways, if any, do current forms of instruction create higher-order, transferable skills, (e.g. invention, problem-solving, hypothesis, weigh evidence, summarise, make judgements, reflect critically, categorise, synthesise, etc.).not just accidentally for the few but potentially and specifically for the many? Understanding cannot be taught, as suggested in the current National Curriculum rubric. Understanding grows out of seeing learning as a consequence of thinking.

World-wide these issues are starting to stimulate a fundamental reappraisal of what "the school-of-the-future" will look like, and what schooling, as opposed to schools, might mean. These challenge conventional curricula to respond to a diversity of ways of "knowing", and which result in curricular practices that genuinely develop those higher-order skills that equip the individual to deal with ambiguity, uncertainty and change.

"Understanding" grows as the individual relates new and ever more complex ideas to earlier, simpler solutions. The desire to understand is largely conditioned by the individual's inquisitiveness, and by motivation linked to self-esteem and personal direction. Young people spend only twenty percent of their working hours between the ages of five and eighteen in the classroom. Learning and schooling never were synonymous; in a world rich in information sources, the role of the classroom - and the teacher - as the gateway to knowledge, is being challenged continuously. Everybody's role has to be redefined.

A National Curriculum that concentrates almost exclusively on what is "taught" in classrooms, and which sees learning as an institutionally-based activity, is already an anachronism.
Six Observations on the DRAFT PROPOSALS

1. In the absence of any preface or opening statement which sets out aims and purposes, it is difficult to discover what this curriculum is meant to achieve, as a whole.

Curriculum planning should start from fundamental principles, based upon some agreed understanding of what schools are for. When this is established, decisions about the curriculum can be taken. What curriculum will contribute most strongly to the process of equipping young people to take their place as adults in a modern, democratic society? Or, placing emphasis on the young people whose best interests it is to serve; what curriculum will best support their all-round development as they make the transition from childhood through youth to early adulthood? This give rise to other considerations. The curriculum occupies great swathes of time in the lives of children and young people and has considerable effect on their attitudes to learning later. What curriculum will most encourage them to learn and to enjoy learning; to exercise their curiosity and pursue their enquiries; to develop enthusiasms and positive attitudes; to gain confidence in their abilities and independence in their judgements........ and so on?

If we are to establish a National Curriculum, then everyone concerned should know how to answer confidently some constantly recurring questions:

from pupils - 'Why must I go to school?' 'Why must I do so much science?' 'What's the point of learning grammar?' etc..

from employers - 'Will this curriculum prepare them for work?'

from parents - 'Will this get them good jobs?'

from such commentators as Simon Jenkins of The Times - 'What is the basis of this colossal investment?', and

from The Bishop of Ripon - Is this curriculum 'accompanied by a vision of individuals as creative, responsible and spiritual, and society as a matrix within which genuine fulfilment is the goal for all?'.

The central point here about learning is that the curriculum must be seen to have a clear range of purposes. Learners will continue to learn willingly and successfully over long periods of time, when they believe that it serves some real purposes of their own. These may be many and varied. Young pupils accept school because it is part of the cultural and social tradition. Initially they may be persuaded that learning is interesting, enjoyable and worthwhile in its own right. Increasingly, however, they demand to know its 'use' and its 'value', in order to see where it fits into their world. If they reject the given purposes, see them as irrelevant, or unattainable then gradually they will disengage. Too much disengagement may lead to alienation. Alienation, in turn, provides the purpose for alienated learning, which, having created, we then condemn.
2. We have to attempt to give meaning to this curriculum from the fact that there are ten subjects, each with its separate statements of contents, levels of attainment and tests. These have been presented raw, without explanation or justification, as if these can be taken as read.

Because the individual subject groups have constructed their own subject statements, each appears to be concerned only with producing young specialists in particular disciplines. There is very little recognition that they should be contributing to a broad general education. It has often been said that the school curriculum is designed to produce university professors rather than to educate everyman. Only a small minority of pupils will ever become 'geographers' or 'mathematicians' or 'musicians', whereas all should benefit from gaining insight into the various ways of interpreting their experience. As it is, there is no attempt to describe or construct such curriculum coherence.

There are other dangers in allowing specialists 'free rein'. They will inflate their claims beyond reason in terms of both 'coverage' and levels of attainment. The sheer volume of conceptual information which results from the accumulation of ten subjects is quite overwhelming - in spite of having now been 'slimmed down'. The expectations about levels of attainment, as opposed to numbers of target statements, are hardly reduced at all. They sometimes dwell in the land of fantasy. For example, Level 10 English descriptions on Speaking, Reading and Writing together propose the kind of mastery seldom witnessed among highly educated adults, never alone among sixteen year olds. Level 10 IT ends with 'They confidently and knowledgeably discuss environmental, ethical, moral and social issues raised by IT'. These kinds of descriptions presuppose levels of maturity, judgement and practised accomplishment which are quite inappropriate beyond a one subject curriculum. Reading across the whole range of Level 9 and 10 descriptions reveals how unreal so many of them are. In some subjects it is suggested that these levels can now transfer to 14 year olds.

More importantly for the vast majority of pupils, the level descriptions at three, four and five are already specialised towards 'academic' rather than 'life' attainments. For example, Science presents four target areas each of which gives a picture of young scientists behaviour in an academic world. It is difficult to read the descriptions and imagine normal children practising these behaviours out in their everyday world.

What are parents to make of such descriptions when they appear, as they have done widely this summer, on children's school reports:-

'In Science, Mary has achieved Level 3. She recognises when a test is unfair and can plan a fair test, with some help.'

'She can classify things as living or non-living and relates this classification to some basic life processes.'

'She recognises that some changes can be reversed and others cannot and classifies changes in this way.'
'She classifies phenomena into general categories; for example, she groups pushes and pulls together as forces'.

Quotations all taken from Level 3 descriptions.

(If it were not so serious, one might be reminded of the problems explored in the Monty Python 'dead parrot' sketch.)

3. **One predictable outcome of overloading, combined with a drive towards academic specialism, is that students will not develop any real understanding of what they have learned.**

There is now a substantial body of research evidence, gathered in the last twenty years in different countries, which confirms this fact: that students can memorise large bodies of information for limited periods of time but do not understand what they have heard. The test of 'understanding' is whether knowledge acquired in one context can be transferred and used in another. Understanding is tested by asking relatively simple questions about situations in everyday life away from the classroom, or by asking students in one subject to apply their knowledge from another. Students who may have answered well in examinations when the questions followed an academic pattern, fail to transfer their knowledge into unfamiliar territory.

The examples are now widespread, they occur across the whole curriculum spectrum, and the pattern of response is always the same. Students who have followed specialist courses to the age of 18, and many who have followed degree courses, give confused or wrong answers. They revert back to 'common sense' explanations the same as those provided by others who did not specialise.*

Understanding relies upon the interplay of ideas and practical applications. It requires regular revisiting and new examples. There must be time for reflection and internalising and embedding the learning. It depends upon being challenged by others, sharing interpretations and being willing to revise our own constructions. So it is with the development of other higher-order skills, the ability to make connections, to deal with complexity, to solve problems and to work collaboratively.

How can this be made possible in an over-crowded curriculum presented in isolated packages as if specialisation was the ultimate goal - a pattern which has already been shown as self-defeating?

Increasingly, it seems, the pressures generated by the drive for academic success are driving other most valuable experiences out of the curriculum and out of young people's lives.

*The best published summary of this research is in Howard Gardner's book 'The Unschooled Mind'. 
The whole extra-curricular programme is in jeopardy in many schools, as teachers and pupils concentrate their efforts on National Curriculum achievements. 'Minority' subjects are similarly at risk. Parents increasingly express their concern at the narrowing of their children's experience outside the school as young people endure the restriction of social, cultural and leisure pursuits. All of these have in the past been features of a 'rounded' education and have contributed to the development of those other skills, interpersonal, communications, creative, social, so necessary to success and fulfilment in life.

4. The process of knowledge construction, consolidation and transfer relies upon the recurrence of ideas at different stages in the learning process and in different contexts both inside and outside the school.

The planned structures of many of the subjects allow for the progressive development of ideas through the key stages. On the other hand, there is very little evidence of planned cross-curricular consolidation. In fact there is evidence of content being reduced by the removal of what was seen as 'unhelpful duplication'. Whatever the causes, the consequent loss of learning opportunities is always regrettable and sometimes seems absurd.

Commentary on the proposals for Geography P.iii

"For example, 'weather' is retained in Geography, but removed from Science; erosion is retained in Geography but weathering and rock types - retained in Science - are omitted (from Geography)."

'Weathering' without 'weather' in Science, and 'erosion' without 'rock types' in Geography. Absurd.

The Design and Technology programmes suggest that pupils 'should be taught to apply knowledge and skills, where appropriate, from the programmes of study of other subjects, particularly art, mathematics and science'. There are no complementary statements in science and mathematics to give effect to this proposal. Separately in Science and Technology the programmes contain substantial sections on 'Materials' written as if in isolation from each other.

In Mathematics there is repeated reference to 'using and applying mathematics to solve real-life problems and to gain higher-order skills'. But there is no reference to the opportunities available in the Technology programme which is available just down the corridor. The mathematicians are right to propose that knowledge and skills should be transferred and exercised beyond its subject boundary. What seems to be necessary urgently, is that specialists should be brought together to take a synoptic view and search the interrelationships which would provide the opportunities to transform the quality of learning through curriculum collaboration.
We have referred earlier to the separation of Art (art, craft and design) and Design and Technology. It appears to propose a false dichotomy, in which the design of manufactured products is free of artistic and aesthetic considerations and the creations of artists and craftsmen are separate from concern for materials, quality and structure. Surely not!

5. The documents offer little indication of the teaching and learning process which they support. However, the general tenor of the language is prescriptive and didactic, apparently conceiving the process as a matter of transferring knowledge from the informed to the ignorant.

This model is encapsulated in the constantly recurring phrase throughout the documents, 'pupils should be taught......' Sometimes the phrase seems to have been inserted after a subject document was completed, without regard for syntax. In the Mathematics statement, for example, we read many such injections as,

'Pupils should be taught to': 'Developing mathematical language' or 'to': 'when and how to apply......'.

In Art the word 'taught' is emboldened to give it increased significance before a list of requirements which includes -

Pupils should be taught to: 'express opinions and preferences for works of art, craft and design, using knowledge and a specialist vocabulary to justify their views'

This repeated insistence on teaching occurs on almost every page of every document and sometimes to head every section, must be meant to convey a particular message. In Geography, for example, the phrase occurs 21 times in six pages of recommended contents, like a Chinese water torture. Roguishly, one is constantly reminded of the old teaching aphorisms:

'I've taught you all I know, and still you know nothing', and

'If they can't learn the way we teach, can we teach the way they learn?'

Education 2000 rejects any simplistic approach to teaching and learning. They are not two sides of the same coin, neither does one always logically precede the other. Pupils learn in many different ways, using different approaches in different contexts. To suggest to them constantly that they must adopt a dependency role in school is a poor preparation for a life of learning. They must learn to take responsibility for their own learning and how to learn and what resources to use and when to seek guidance. They will learn a great deal outside the school, in home and community where they cannot rely on being taught. They learn naturally, through experience and by trial and error. They learn to become independent and should be encouraged to do so. Sadly, the phrase, 'pupils should learn......', occurs seldom in these texts. Perhaps we should insert it to restore a balance:
'Pupils should learn throughout the curriculum to value good teaching in all its many forms'.

6. The curriculum statements necessarily draw upon what is known and established in any field of learning, but this does not go far enough. Curriculum programmes should be up to date and forward looking, if they are to catch the interests and imaginations of young learners.

There are two compelling imperatives for curriculum programmes. First, that they should reflect contemporary understandings and interpretations, since these are of particular interest and importance to the young, as they struggle to make sense of their immediate living experience. Second, young people should be made aware that knowledge and culture change continuously, and that in our time change is rapid and pervasive. Pupils need to sense the dynamic of change in their curriculum experience, as the key to their confident participation in a changing future. This set of curriculum documents mostly lacks immediacy and anticipation of the future.

This feature of the statements can be exemplified in every curriculum area. Most noticeably, perhaps, History includes the 'Twentieth Century World' but... ends with 'The legacy of the Second World War' including the 'UN Charter and the origins of the Cold War'. Where else in this curriculum will pupils learn about contemporary history, fifty years on from 1945, which they are living in? Nothing on the European Union here, or the breakdown of the Soviet Bloc.

Science insists that in 'Life Processes' 'the work on animals should focus on humans'. Does this reflect our changing attitudes to ecological issues and man's exploitation of other species?

In a world which is being revolutionised by Information Technology, the discrepancy between learning in school and out of school is perhaps greatest. Many young people are way ahead of their teachers in their experience and expertise in using the technologies. They have advanced systems and a range of software which is not available in schools, and they use learning programmes which challenge the whole basis of curriculum learning. Like, 'why should I memorise so much information, when I can store it easily in my computer?' Or, 'why is it cheating in school to use a 'spell checker' in writing an essay, when it is common-place in every office in the land?' And so on, and so on. Much of what the IT programme proposes should be taught, these youngsters have learned long since.

There is the potential for a massive 'switch off' of pupils' interest from learning in school unless these matters are reviewed across the whole curriculum.

**Conclusion**

Education 2000 has enormous sympathy with anyone charged with trying to define the detailed structure of a National Curriculum, and reconciling a vast range and diversity of interests, theories, and philosophies.
We have to conclude, however, that the balance we advocate between the transfer of culture and well-practised skills, with that structured approach to giving all young people skills which will enable them to manage their own learning as a life-long activity, has not been achieved... and indeed has barely been recognised.

We are deeply troubled, from the evidence of these Proposals, that a view of learning is being expressed which runs counter to what - at an international level - is becoming ever clearer... namely that learning is a 'sense-making', problem-solving, collaborative activity; that it is more a matter of Knowledge Construction than it is of Knowledge Transfer; and that, essentially, Learning is a consequence of Thinking. In this over-crowded, content-saturated curriculum there is little room for reflection; little opportunity to speculate, and little encouragement to make connection across subjects.

There seems, in these Proposals, little room for such kinds of learning, and little appreciation of the true needs of a Knowledge Economy. Yet it is learning of this kind which is so critical in the development of those higher-order skills that society as a whole appears to need so very much.

Education 2000 therefore recommends that, before any further modification of the curriculum is undertaken, an in-depth study is made of all the available literature, research findings and research-led action programmes, that are investigating ways in which structures for learning can more accurately reflect what is now coming to be known about the brain's natural learning mechanism. Without such an enquiry we believe that any further modification of the National Curriculum will be ineffective in equipping young people with the skills of learning which are now an essential complement to that other part of the curriculum - namely the initiation into the culture and into practised and well-established knowledge and skills.