

Craft, Design, Technology and Industry

To what extent does consideration of those features, unique to man, of hand, eye, mind and society offer a basis for a coherence as well as a core for the school curriculum?

In whatever may eventually be accepted as an essential core of studies through primary, middle and secondary years of schooling, the place of what is considered under the titles General Studies, Civics, Man and Society, Craft, Handicraft, Art and Craft, Design, Engineering Studies, Heavy Craft, Light Craft, Woodwork, Metalwork and many others perhaps, will be under scrutiny. Some of the factors which will emerge and which relate to the inclusion of these subjects of study will, no doubt, be puzzling. Questions like: how did they get there in the first place? why does this school or that school include some but not others? why is this aspect of one emphasised in one school but other aspects ignored, with the reverse pattern in another school? why do some pupils undertake little study in these areas and other pupils a great deal?

Setting aside, for a moment, those questions relating to centrally or nationally based (and agreed) curricula, with or without local flexibility for content and individual flexibility of method, whatever these phrases mean, and ignoring resource problems, both material and human, let us consider some factors which might facilitate desired change.

It has been recently argued, not for the first time, that what is being undertaken in schools is, in many respects, not only confused and confusing to pupil, teacher and parent, but often hopelessly unrelated to the realities of contemporary life, and what has become known as futurology. Of course this begs the question that schools should be concerned about particular contemporary matters and the future, as well as whether schools are indirectly and inevitably by their means/ends functions, *already* preparing pupils for their future lives, as well as for contemporary life. These contentious and provocative questions were raised by Harold Benjamin¹ as long ago as 1939, and perhaps are as relevant, if not more so, today. What the realities of contemporary life *are* to each of us – pupils, parent, teacher, employer, employee – and what the answers to questions relating to such meanings as we all ascribe to events and information, imply for curriculum design, have only recently begun to be examined.² Likewise questions which require us to consider to what extent schools are and should be agents of, initiators of, responders to or indifferent to change in society, as well as questions relating to the role of schools and colleges as part of society or the community, are being considered from many different points of view.³ Add to these considerations, those concerns of the contributors to the debate who feel that traditional knowledge, thinking and skill patterns are, if not sacrosanct, sanctified as school subjects and we have parochialism. Even if accommodation can be granted to the gradual evolution of such subjects through various subject-based curriculum developments, the possibilities of agreed change seem small. Finally,

and perhaps further reducing the chance of response to a more catholic consideration of those elements of study which form the concern of this paper, what of the quite widespread concern for individuality, the pupil's needs, creativity, feelings, leisure and the increasing sensitivity to one or more of the contributors to the debate about learning from Piaget, Freud, Skinner, Eriksson and many others?

He would be brave who would say that we are at a stage where curriculum plans can be drawn up by applying educational theory in a clear-cut and systematic manner. To what degree are we going to have to continue to rely on (and not apologise for it!) intuition, with perhaps a leavening of rationality? What could emerge from such an approach in terms of, not only the development of rationality in the pupils and students in our schools and colleges, but also for the 'cultivation of the soul'? In what ways could what we regard as acceptable in craft, design, technology and considerations of industry, be said to be appropriate for these two purposes, and bearing in mind the inadequacy of educational theorising, how are the outcomes to be implemented?

If we are to assume that teachers intend that, from what they are to provide in these areas of study 'all their pupils and students will be well equipped to live confidently and wisely in a technological age'⁴ and that consideration of attitudes, skills and knowledge needed for *all* future citizens will probably require their involvement, in various ways, in the affairs of democratic, technological and industrial society, the intuition and rationality of the teachers, as curriculum planners and implementers, will be severely taxed.

It might be helpful, in such a situation, to consider the model of the curriculum-development process proposed for school use by Skilbeck,⁵ especially in anticipation of general statements of aims established nationally and requiring local modifications.

Five major aspects are considered by Skilbeck: *situational analysis* – of both external and internal (to the school) factors – *goal formation*, programme building, interpretation and implementation, monitoring, – *feedback*, – *assessment*, – and *reconstruction*. Within each of these aspects there are many considerations with wide, and often interrelated implications.

Cultural and social changes and expectations, including employer requirements, changing relations

between adults and children require consideration alongside local authority expectation, examination requirements, response to national curriculum projects, educational research reports, the changing nature of subject matter, pupils attitudes, abilities and defined educational needs, as *part of* the situational analysis aspect of the model. If what we wish to consider in respect of craft, design, technology and industry requires, for example, the consideration of curriculum projects, which ones are relevant? Elements of the Schools Council Integrated Studies Project, Social Education, Political Education, Humanities Curriculum Project, General Studies Project, Geography for the Young School Leaver, Geography 14-18, are probably those that are least likely to spring to mind but may have a bearing on what goals have been accepted. Man a Course of Study,⁶ as another source, has more specific significance as a combined curriculum study directed towards liberalising rather than providing a specialism because it moves from simple transformational grammar to the growth of technology, yet it appears to assume that we should avoid talk of conflict and consideration of the varied beliefs of men, particularly political and competitive and hence is perhaps of little help in considerations of industry or the aims of industry. The more usual considerations expected from the 'specialising' compared with the 'liberalising' elements of these areas of study (unless we argue that everything is both liberalising and specialist in some sense) could possibly be drawn from Schools Council Project Technology,⁷ Art and Craft Education⁸ and Design and Craft Education,⁹ with contributions from the more accepted and traditional disciplines of Art, Mathematics and Science, making their mark by design or accident!

How would the Skilbeck Model suggest incorporation, of what emerges from the situational analysis, into a day-to-day school curriculum? Would responsibility be scattered across departments with but tenuous links? Would faculties come to work as organic bodies or would departments continue to function as autonomous units? Would faculties co-operate in whole-school planning towards more integrated presentations, rather than interrelated considerations of the matters in question? Whatever approach is accepted, what measures could be taken to constantly appraise the outcomes and the effectiveness of the means? In undertaking these measurements, what criteria will be used and who will decide them?

In consideration of resources, what problems arise from special provision, both specialisation of workshop and laboratory and specialisation of training? Will a group of teachers and classroom managers emerge able to plan joint operations requiring, for example, craft, applied science, pure science and mathematical resources, with reference to aesthetic considerations and fluency of communication (oral and written), in the middle and secondary sector as has happened in the primary sector? Will these be possible through team-

teaching, resource and consultancy based learning, perhaps through problem solving, pupil-initiated activities, or through a group of polymaths servicing new school subject matter, perhaps time-tabled as Artifact Creativity (to distinguish it from Numerative and Literative Creativity forming two other elements of subject matter)? Would such a new group of teachers of Artifact Creativity (encompassing Craft, Design, Technology and Industrial Considerations) emerge from Craft teachers able and willing to expand their expertise not only into Technology but beyond those activities envisaged in the recently established Faculties of Technology to more generalised Faculties of Industrial and Business Studies?

The emphasis has been directed at the middle and secondary sector not because the primary sector is unimportant in respect of the matters considered but because most problems of curriculum development are more difficult to solve for the secondary sector. The primary sector has responded so rapidly to the inclusion of so many valued elements of its curriculum in recent years that it would be surprising if similar responses to any new expectations were not made. However it would be unfortunate if, as has often been the case, curriculum changes occurred in one but not the other sectors.

It seems clear that considerable debate and discussion (especially of what ought to be going on, is going on and planned, in schools) concerning such transmission and transformation of contemporary aspects of man's culture is long overdue.

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