TEACHING AND LEARNING THROUGH MODULES
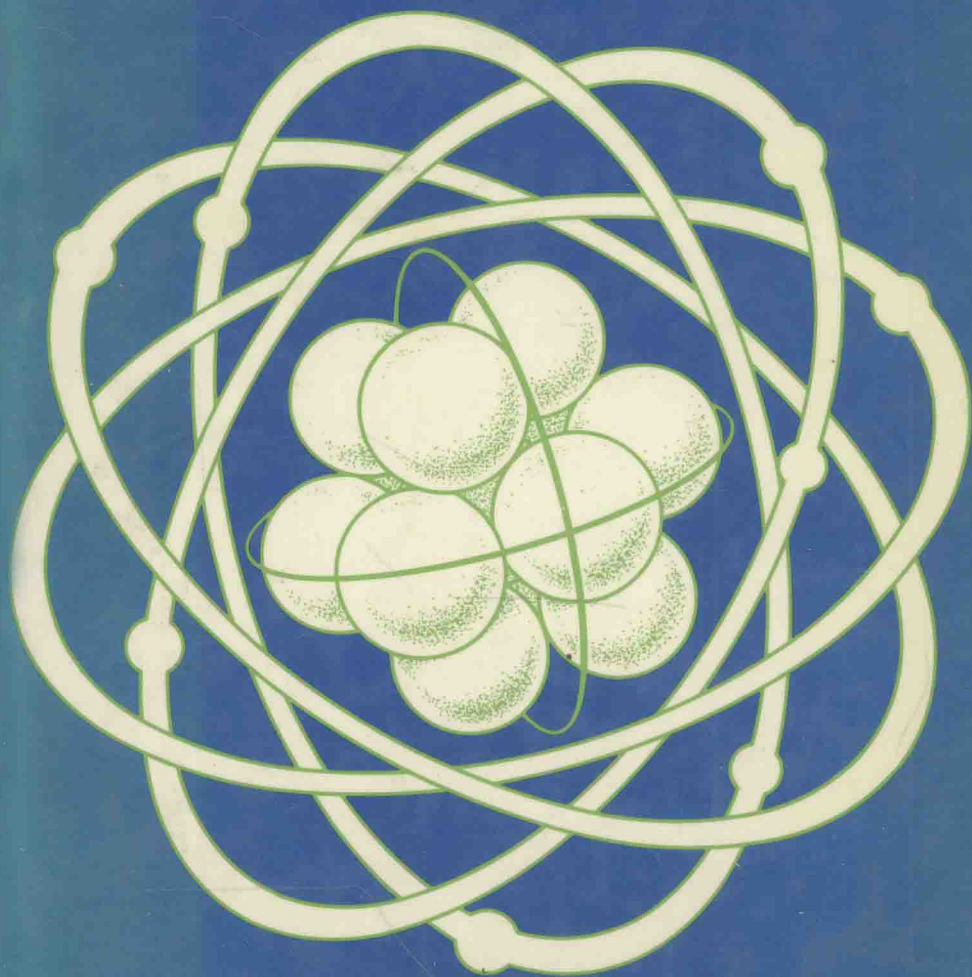
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Teaching and Learning Through Modules

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Introduction: Cafeteria Curriculum

The institutionalised curriculum has always had a culinary look about it. In the good/bad old days it was served up rather like school dinners, complete in itself, delivered in front of you on a take-it-or-leave-it basis. Hot, wholesome and nourishing, such repasts were said to contain all that was required to fortify the inner man, and there were constant reminders of their efficacy in this respect: how to leave the greens, swop the spuds for peas or ask for a smaller portion might do irreparable damage. Someone out there in the culinary beyond knew what they were talking about: the food was 'good for you' and, if eaten up without complaint, one day we would thank them for it.

The problem was that, wholesome and sustaining though it might be, the food was neither interesting nor appetising. The changes were rung from day to day, but one soon came to know what to expect – 'if it's Friday it must be fish', etc. – and the menus had a grey sameness about them. School meals, far from being joyous, sociable occasions, degenerated into mere acts of nutrition. So, too, the curriculum. In those pre-1944 days it had the great benefit of being regarded as a whole and it did provide a broad and balanced diet. The problems of feeding young minds and the feeding of young bodies, however, were tackled in much the same way. The staple fare was seen as consisting of all those elements which together were required to sustain intellectual growth and enable one to hold one's own in the hurly burly of daily living. Such a curriculum had a long and honourable provenance, stretching back as it did to the *trivium* and *quadrivium* of the Middle Ages, but it responded neither quickly nor favourably to change and, as the pulse of society quickened in the immediate post-war era, difficulties began to emerge.

Schools were getting out of step with the world beyond their walls, but the methodology encouraged – didactic, subject-centred, segmented and elitist – was manifestly inappropriate for the fast-moving, democratic and self-service society that was coming into being. Openness, individual

freedom and self-determination were seen as its major attributes and, just as canteen service was transforming the nature of mealtime in schools, similar changes modified their curriculum. In true British manner, though, this was done in an evolutionary fashion; it was a revolution in retrospect only!

The introduction of GCE, and later of CSE, were manifestations of this greater openness and wider choice. Selection there now was between subjects and one no longer had to take these all at the same time, but methodology changed very little and – as HMI have recently pointed out[1] – attempts to encompass the maximum range of possibilities have resulted in an overcrowded timetable and, for many, a paradoxical narrowing of the curriculum. The *set menu* approach might have given way to *table d'hôte* offerings, but waiter-service remained the order of the day, there was very little interchangeability bewteen items and the managers did not seem to realise that many of their customers were leaving the restaurant before they had finished the complete meal. As this was often merely part-way into the main course, and sometimes at the hors d'oeuvre stage only they were departing, some chronically under-nourished, others suffering from diet deficiency brought about through a lack of vital curricular trace elements.

Modular planning, a transition from the *à la carte* to a *cafeteria* approach, attempts to combat all these weaknesses. In essence, it breaks down the total curricular offering into units very much smaller than teachers have ever felt possible, puts each of these clearly on display – so that one can see precisely what it is that one is buying – and invites the customer to 'pick 'n mix' between them. For accreditation purposes, the value of each item is marked – in canteen style – and there is no set time for the duration of the meal. The system begins with the individual tastes of those making the choice, who are more likely to be predisposed towards a menu they themselves have had a hand in constructing. Supervision is, of course, still required but this function becomes somewhat different from traditional waiter-service. It relates far more to the management of the style, environment and presentation of what is available than to the serving up of what one was supposed to have ordered, in a manner over which one has no control, in the management's own sweet time!

Once having been prepared, it is quite common these days for dishes that have proved popular to be deep frozen and served at a later date, either by those who have cooked them or by others: even to be transported to different establishments for inclusion on their menus. A short time in the micro-oven and they are ready to serve as good, or

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[1] See HMI *Aspects of Secondary Education* (HMSO, 1979)

almost as good, as when they were first made. In modular terms, this fast-food process is called *banking* and refers either to the content of a particularly successful or innovative unit, or to its accreditation for examination purposes.

There are obvious weaknesses about the modular approach to curricular planning and a careful eye needs to be kept on these. The whole process might have been introduced through economic necessity, which is a mistaken view of things, or insufficient thought may have been given to the various components that go to make up the scheme. One aspect could be over-represented, another hardly present at all, or insufficient attention might have been paid to the customer's response to the change in approach. The menu may cease to reflect his changing needs, which would be a pity as a cafeteria approach is able to respond with greater speed and more precision than any other. When applied directly to a school or a college, this type of curriculum may lead to intellectual indigestion through the encouragement of an ill-assorted grouping of modules, to cranial constipation if a series of 'easy-options' are permitted, or plain biliousness should students be allowed to feast too freely on a diet over-rich in units which are basically similar. The besetting sin of the cafeteria approach is that it may become an unappetising diet of continual curricular *smorgasbord*. Unless seen as part of an overall menu this will be the fate of any modular scheme.

But what – in clear, unambiguous language – is a module and how might such a fate be obviated?

Any definition will have to be broad enough to encompass the full range of permutations possible – from modules which are viewed as sequential units leading progressively to the mastery of a subject, to those having more of a complementary function within the cafeteria concept; from the ones placed within a national curriculum[2] to provide important elements which the HMI claim might otherwise slip through the epistemological net[3] to those which allow for different vocational pathways through a mass of material which is common to all.

The brief definition supplied within an earlier book is as good as any. It has a *module* as being:

> A **short** unit, **complete** in itself, which may be **linked** to further units towards the achievement of **larger tasks** or **long term** goals[4]

The terms in bold type require further elaboration:

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[2] DES *The National Curriculum 5–16: a Consultation Document* (HMSO, 1987), para. 18.

[3] HMI *The Curriculum from 5–16* (HMSO, 1985) paras. 13–15.

[4] See Warwick, D, *The Modular Curriculum* (Blackwell, 1987) p. 4.

1 Complete units

One of the most commonly ascribed attributes of the module is that, like a sentence in the English language, it is an entity complete in itself. Just as every sentence must, by definition, have one or more verbs, so each module must have clearly-defined goals. Verb and goal both tell you where the action is, give shape to the unit as a whole and differentiate it from others around it. Without them it could not be regarded as a totality.

Different types of modules will require their goals to be spelt out in different ways – some will have a distinctly empirical look ('this module sets out to *show* . . .'), some are more behavioural ('at the conclusion of this unit you *will be able to* . . .') and some are more expressive by nature, the distinction between *process* and *product* not always being clear ('over the next five weeks you will be *experiencing* . . .'). Sometimes a combination of differing goals are incorporated into a single unit but, however they are derived or whatever form they take, it is from them that its content emerges and towards their fulfilment that it inexorably moves. Goals are the alpha and omega of the modular process.

2 Short units

Linked very closely to the setting of goals is the need for these to be short-term and shared with those who are to learn through them. These goals are essentially achievable ones – they take weeks rather than months to reach and thus the motivation of all concerned, teachers and taught, will be strong.

There is no delayed gratification here. Possibly for the first time, pupils are told exactly what is expected of them; they experience the satisfaction of frequently succeeding rather than continually failing to meet nebulous and ever-receding targets. Those who might otherwise have been consigned to lowly 'differentiated' streams from the outset may now be introduced to GCSE criteria in a more gradual fashion through a careful arrangement of the material in modular format. Indeed, there are intrinsic benefits in re-examining all the subjects that we teach in this way. Decisions over specialisation, examination entry or vocational choice may also be delayed, and so facilitated, while in no way interfering with the progress of others in the group or year. CPVE uses modules in precisely this fashion and many TVE schemes have adopted them in order to add a specific dimension to the curriculum as a whole. At sixth-form level, self-directed study is facilitated through modular approaches, as are important cross-curricular elements of study-skills at every stage in an individual's scholastic career.

In all these, and in many other ways, our students are given greater access to decisions which affect them. They are permitted to have some say in their education, to see that they are getting somewhere. All this can be achieved through the orchestration of self-contained, short units into a larger and coherent curricular totality.

3 Long-term goals

Important though these short-term goals may be, modules should not be regarded as ends in themselves. They always form part of some larger curricular scheme or are used with the attainment of much longer term objectives in mind. Unless this is the case, the end product is likely to resemble the intellectual smorgasbord referred to earlier!

These long-term objectives are either externally imposed, as is the case when examination boards set restrictions on the combination of modules for assessment purposes, or stem from internal considerations relating either to the course being followed or the meeting of individual need. If it is the structuring of the course which is regarded as having precedence, then the modules will be ordered in such a manner that there is a progression towards its ultimate goals and each individual part is fully understood in sequential relation to all the others. In other words, a utilisation of the classic division into *aims* and *objectives*.

On the other hand, if the ultimate aim is the meeting of the individual needs of each and every student, very little pre-structuring is possible. The controlling influence here is likely to be tutorial guidance linked to carefully kept records of progress, probably along *profiling* lines.

4 Linked units

How modules are individually linked will, then, depend on factors beyond the internal objectives that each was designed to reach. Clear links between individual modules there have to be, but their relationship one with the other must clearly be seen as an outcome, or product, of such an overview and not vice-versa. It is surprising how frequently this important yet elementary fact is overlooked.

As has been seen, in some cases a specific sequence, progression or order will have been built in from the outset. The method of linking modules here is directional and the approach is almost always a *stratified* one, entailing a series of *levels*. Stage One leads to Stage Two, Stage Three cannot be attempted until both the previous ones have been understood, and so on. Modules here represent a succession of base-camps by which individuals are enabled to scale their way up the epistemological summit.

The second broad approach – in which modular choice is in the students' hands and each such selection may have a coherence of its own – may be termed *complementary* as the modules in the programme are not arranged in any particular order. However, it may become *sequential* if a minimum of structure is introduced. All students opting for it may, for example, be required to cross the same terrain, but there is no set route by which they must do so. Modules may be taken in any order and, if the going gets too rough or manifestly unsuitable, others are available which allow individuals to branch out in slightly different directions. Stratified schemes are largely closed-circuit and really designed for those who opt for them from the outset. The others are far more open-ended and their individual components could well form sections *complementary* to or *sequential* within other courses.

If combinations of both these basic approaches are required, this is possible through the use of *key/core* and *optional* modules (the *concentric* approach) or by following units of different kinds *concurrently*. Nor should it be forgotten that, at each level, *stratified* units may also be *complementary*, or open to selection, and that – if the modules have been carefully planned – once such a pre-specified course has been entered into, the possibility always remains of branching off in other directions. The flexibility given to curriculum developers once the balance between long-term goals and short-term objectives has been grasped, is enormous.[5]

5 Larger tasks

Modules have been introduced to facilitate schemes that have wider outcomes and involve long-term planning. Unless they do so, curricular disintegration will occur. But these schemes are themselves part of a broader process – the education of each individual within the context of a specific school or college. Through them each unit owes a wider allegiance, and this relates to the aims of the institution as a whole. If attention is not paid to such broader, all-embracing concepts, the resulting fragmentation may not be so immediate; it may take place on a much grander scale, but it will – just as surely – occur.

The setting of such aims should not devolve upon the Head or any central management team alone. As all staff are involved in the process of translating aims into practice, each and every one of them needs to have a say in the setting of these aims. Once this is done, in whichever manner is most appropriate for the institution concerned, such aims

For full discussion of these modular links see Warwick, *op. cit.*, pp. 83–99.

may readily be converted into expressive objectives, or guiding principles, for the conduct of its work at each level. These are the attitudes, skills and behaviours basic for anyone hoping to take their place in society, make some contribution towards it, question its ideology or actively struggle against its values. It is not the function of an educator to prescribe the use to which learning is put – that way lies indoctrination. Rather, he must ensure that, once they leave him, his charges have the opportunity of reaching their potential in whatever direction this may take them; that they have the opportunity at least of being heard, however distasteful their views may be. Too liberal or too open an education works precisely *against* these precepts if it undermines or devalues basic socialisation of this kind. Modular planning, when handled in all the ways referred to above, places at an institution's disposal a certain method of ensuring that such broad aims are translated into practice; of converting educational aspirations into reality.

Within the school or college itself structures of various kinds will be required if such schemes are to be satisfactorily introduced. These will be inter-related and consist, first and foremost, of fairly *large blocks of time* in which all staff involved in the programme are available and a sufficient number of modules may be run, both concurrently and consecutively, for the scheme to be effective. *Control mechanisms* will also be needed to ensure that curricular coherence is, in fact, achieved. These will probably consist either of the kind of pre-structuring of the material already described, strong tutorial guidance or the careful monitoring of individual progress – possibly through the use of computers. The last two of these controls are frequently combined.

In schemes which involves a large element of student choice, an effective method of *communication* not only of the titles of the modules but of their 'vital statistics' – content, objectives, length, approach, etc – is crucial. Such details may be produced in tabulated and easily understandable format through the production of *modular specification* sheets. These need to be available to all students within the scheme, their parents and those responsible for advising on the uptake of such units.

Finally, *evaluation* of both the scheme and the learning it encourages are features of any curricular innovation. Here, two of the differentiations within such processes made by Robert Stake[6] are of particular interest to those involved in modular planning. These consist of *formative* and *summative* assessment. The first is conducted whilst the programme is

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Stake, R, *Evaluating Educational Programmes: The Need and the Response* (CERI/OECD, Paris, 1976), pp. 18–28.

in progress and is of assistance in keeping students on course or modifying their aspirations, and the latter is conducted at its conclusion, usually for accreditation or profiling purposes. As Stake says: 'When the cook tastes the soup it is formative evaluation and when the guest tastes the soup it is summative!' Second, he points out the important difference between *preordinate* studies, which set out to meet prescribed objectives, and *responsive* ones, which 'are organized around phenomena encountered – often unexpectedly – as the programme goes along'. It can be seen how these relate to the two broad types of modular planning referred to throughout this chapter and entail rather different assessment procedures.

All the aspects of modular planning briefly outlined in the above pages are explored far more extensively in the individual chapters that follow. These have been written by those active in this field, most of them currently engaged in the running of modular projects of their own. The majority of the contributions also take the form of *case studies* of individual schools which have been eminently successful in developing such schemes. Although the issues addressed, then, are broadly similar and the structures adopted relate closely one to another, no attempt has been made to cajole the authors into the adoption of a uniform approach, nor would I wish to do so. It will be quite obvious in reading through the pages that follow that, whilst there is broad agreement over the opportunities offered through modules to 'break the mould'[7] of the English educational system, there remains a lively debate over the precise nature of the modular planning that is required. The rich variety of possibilities that are thus opened up is, to my mind, one of the most interesting features of *Teaching and Learning through Modules*.

David Warwick
Farnham, September, 1987

See Moon, R, *The Modular Curriculum: Remaking the Mould* (Harper and Row, 1987)

1 Preparing a module

*Richard Dunn, Clive Marshall, David Sharp,
Geoffrey Wilby*

*Hemsworth is a bustling village which combines two societies, the
mining and the rural. A number of smaller villages also lie within
the school catchment area. Some are characterised by decline and
deprivation, others by relative prosperity and expansion and this
provides a truly comprehensive intake. The style of the curriculum
adopted, within the broad areas outlined below, is very much a
response to the local community and the nature/ability of our
students.*

*Hemsworth High was formed in 1968 by the amalgamation on
one campus of a grammar school and two secondary modern
schools. It is now a well established and successful mixed
comprehensive school (13–18) with good buildings in attractive
grounds. At present, it enjoys the resources and staffing associated
with a roll of almost 1300 students and a sixth form of 150 but
there is likely to be a decline in numbers over several years to an
estimated low of 900.*

*Pastorally, the school is organised into 'half-year' divisions, with
a Division Head responsible for 150 to 180 students and the
coordination of a team of six or seven tutors. The pastoral
structure, a natural extension of a year system, was a direct
response to the increasingly modular form of curriculum being
developed for many of our students. It was felt that a more secure
yet active pastoral base was essential if the many advantages of a
modular curriculum were not to be undermined by frequent
changing of teachers and courses.*

*Hemsworth is departmentally arranged, although the adminis-
tration and development of the curriculum is undertaken by a
number of coordinators. These senior staff are responsible for
groups of departments and are actively involved in making both
practical and philosophical sense of our modular schemes.*

The intake year (third year) is taught in tutor groups. In the

fourth and fifth years, students follow a variety of GCSE, unit accreditation or City and Guilds courses, depending upon ability and individual choice. Within this framework, all students must take English, Maths, at least one subject from the humanities, a creative subject and 20% science/technology. French and German are available for those with an interest in and aptitude for modern languages.

Staff at Hemsworth High have produced, implemented, reviewed and rewritten more than 200 modules. Some are 18-week courses (of two 50 minute lessons per week) designed to meet the requirements of particular subjects, but most are nine weeks long, in order that they can meet the requirements of our rotational scheme. Some staff have planned in teams to produce shared modules (or a number of modules with common objectives) whilst others have worked in isolation to create a single course that represents a unique contribution to an option package.

The preparation and 'ownership' of modules by individual staff within broad subject guidelines has been the key element in our planning, and for this reason it was felt that it would be more appropriate to offer a corporate view which tries not to generalise, but attempts accurately to portray the range of processes that lead to modules being created. This chapter has therefore been completed by four staff, each offering a view of how individual preference or departmental need can lead to a contrast of styles and approaches.

A propos of a discussion on curriculum problems comes the suggestion, 'Why don't you write a series of modular courses?'. Blank response, uneasy shifting of position, averted gazes. 'You could tackle one for starters and see how things go'. The parties go their separate ways. Nothing to show, one might be tempted to think, but the wheel has begun to turn and the thought processes to work.

Does a module appear out of thin air? Does it gradually materialise and take shape out of a dim mist? Does it grow out of barren soil where nothing has been planted and where nothing has grown before?

There are those who suggest that modular courses do just that and so are addenda to what is familiar, well-tried, tested, comfortable and expedient. Modules have no foundation, no ancestral line and no pedigree. Because of this they are regarded, by some, as a troublesome academic exercise whose end result contributes little to the educational status quo. Our own view is that modules are not planned in a vacuum but are a natural extension of the work going on in all curricular areas. The material that constitutes a module is no new thing, even though the concept of the module may be.

All of us must be able to look back on our schooldays and remember weeks and weeks spent on 'The apostrophe', 'South America', 'The causes of the French Revolution' and any amount of other such topics; even the examination papers were conveniently sectionalized. This was, of course, the splitting up of material for convenience, but this sub-division of a syllabus into manageable sections is not the same as creating a modular course. In order to create a module, we must be prepared to look critically at the educational process and identify the essential elements of experience involved.

Thus one of the main advantages of a module is its property of encapsulation. The attention is concentrated into a smaller sphere of activity and the field of vision is narrowed; objectives are seen in sharper focus. It might be thought that this would restrict possibilities but narrowing the immediate field of vision is no bad thing as long as a wide field of vision has been used to establish the main principles of the basic syllabus.

Planning

Preparing modules is in many ways no different from any other form of curriculum planning. The debate continues about the appropriateness of declaring specific or even explorative aims as the first step for planning. Our experience at Hemsworth is that initiatives have arisen as a result of the evaluation of existing practice. Malcolm Skilbeck[1] outlines the curriculum development process as a cyclical process that can begin at any point but will involve some form of situational analysis prior to the formation of goals or planning.

The first step to the individual planning of modules was taken corporately when, early in 1983, a full appraisal of the existing school curriculum was undertaken, basically as a response to difficulties being experienced with a large number of students. Concern had been expressed by a number of staff about the appropriateness of CSE courses for many of our students. We established that up to 50% of our students could be classified as having moderate learning difficulties (in addition to 7% with severe learning difficulties). At that time this represented up to eight teaching groups per year in which it was felt that motivation was poor and that learning styles created underachievement and friction between staff and students. Add to this the disincentive

Skilbeck, M 'The curriculum development process: a model for school use' from *School-based curriculum development and teacher education*. (mimeograph, 1975) in Bolam, M and Prescott, W *Supporting Curriculum Development* Open University Press, 1976, p. 96.

of high unemployment and poor social conditions for many students and the need for radical change was obvious.

Our school-based initiative was the establishment of a cross-curricular modular programme where the main emphasis was to be the learning process. In addition to this, the Science Department, followed by the Humanities Department, also devised their own modular schemes.

In Science, for example, members were invited to develop a nine or 18 week course, based upon two out of 30 lessons per week, which would be repeated with different groups of students on a rotational basis. Each student would therefore have six lessons per week and would cover three separate modules every nine weeks; twelve per year.

Scientific modules

Science, Humanities and Creative Studies, working independently, each adopted distinctly different ways of establishing the purpose of a module. In Science, the initial brief given to participating staff was to:

- devise a unit of work which was relevant to the demands of today's technological society;
- ensure that the course was practically biased;
- choose a topic in which they themselves were particularly interested;
- write a module which the students would find interesting, thus increasing motivation.

Science staff were also advised that each module should be coherent and autonomous but must adhere to the general aims and objectives of the department, as follows,

1   To develop an atmosphere in which both staff and students enjoy working together.
2   To provide, through well-designed studies of experimental and practical science, a worthwhile educational experience.
3   To develop abilities and skills that are relevant and useful in everyday life.
4   To stimulate curiosity, interest and enjoyment in science.
5   To develop knowledge and understanding of scientific phenomena and scientific and technological applications with their social, economic and environmental implications.

The modules were put together in a coherent package which ensured a meaningful, broad and balanced scientific contribution to the curriculum.