Originally used as a template for a module on curriculum design, these files are intended to be used and adapted as required (as long as acknowledgement is featured where material is reproduced). Everyone will have their own style of presenting and organising material, so the outlines provided below are presentation guidelines only.

Accompanying notes to the lecturer's resource

Curriculum design presentation

PRESENTATION 1: Curriculum design and development

This presentation is designed to introduce participants to some 'building blocks' of the curriculum, some key components and how they can fit together in designing a curriculum.

1 Ask participants to move into groups of three. Ask them to write down a definition of what a curriculum is, individually, then, in threes, to share their definition with the small group.
2 Bring everyone together. Ask for some common points from the definitions, in terms of what the curriculum comprises, for example:

- the school syllabus;
- the formal curriculum: what the students learn;
- tests and examinations;
- statements of aims and objectives;
- the hidden curriculum (what they learn without being taught);
- skills;
- knowledge;
- teaching and learning styles;
- everything that takes place at school.

Put them on the whiteboard or LCD display.

3 Indicate that we are only dealing with the formal curriculum.
4 In the groups of three, ask them what they think needs to be considered in planning a curriculum: if they are planning a curriculum what needs to be included/addressed/considered. List them in each group:
5 Bring everyone together. Ask for some common points of what needs to be included, for example:

- teaching strategies;
- resources and textbooks;
- learning strategies;
- assessment, evaluation, testing;
- skills and competencies;
- learners' characteristics;

- demands of society;
- demands of jobs;
- demands of higher education;
- all-round development of students;
- organisation of the learning;
- sequencing and progression;
- levels of difficulty and matching to students' needs;
- what students already know;
- learning outcomes and knowledge outcomes.

Put them on the whiteboard or LCD display.

6 Indicate that the field is huge, and yet some sense has to be made of these. So, the course is designed to rationalise the curriculum and make it manageable. To do this several models of the curriculum are presented. These are presented in the following PowerPoint slides.
7 Then move into the PowerPoint slides for Presentation 1:

Slide 1: Title

Slide 2: The Tyler rationale

The Tyler rationale: indicate that this was an early, yet enduring, attempt to rationalise the curriculum planning process. It started with four questions and these reflected (in order) aims → content → pedagogy → evaluation as building blocks for the curriculum. Aims *determine* content, which, in turn, *determines* pedagogy (the most suitable way to deliver the content), and the aims/objectives set the evaluation, which is the extent to which the student perform/demonstrate the desired behaviours.

Note that evaluation here is being used in the sense of evaluating student achievement, not of programme evaluation (evaluating the effectiveness of the course).

Slide 3: Curriculum aims

If we take curriculum aims, they are synonymous with values. What values and whose values are important issues. For example, how should the curriculum serve society, technology, the economy, employment, human values, democracy, personal freedoms, creativity and so on. The values that a school has determines where they may stand on such issues, hence one has to ask where the values come from. Aims are fundamental, and aims touch every aspect of the curriculum.

Slide 4: Curriculum content (1)

If we consider curriculum content then this could be framed in terms of traditional curriculum subjects.

Slide 5: Curriculum content (2)

If we wished to take an alternative view of curriculum content then this could suggest a whole range of new subjects, some of which are finding their way into school curricula. In many ways these are more challenging, as they deal with highly contentious issues. As before, the values that a school has determines where they may stand on such issues, hence one has to ask where the values come from.

Slide 6: Elements of learning

Regardless of how we frame the subjects, if we wish to discuss how to build the curriculum within whatever subject we have, then we have to consider the elements of learning: knowledge, concepts, skills and attitudes, as, together, these will feature in our curriculum planning.

Slide 7: Pedagogy (1)

If we consider pedagogy then we could consider, for example, a traditionalist approach, many characteristics of which conform to the stereotype of the Chinese learner. The pedagogical styles here conform to strong teacher direction and control; the approach places emphasis on teaching rather than on learners.

Slide 8: Pedagogy (2)

On the other hand, if we consider a more ambitious view of pedagogy, there is overwhelming evidence that more adventurous approaches to students learning – shifting the emphasis from teaching to learning – are more effective in promoting learning and achievement.

Slide 9: Assessment (1)

On the one hand, assessment in a traditionalist view of the curriculum frequently involves testing, recall and repetition. Again, this conforms to the stereotype of the Chinese learner. The values that a school has determines where they may stand on such issues in assessment, hence one has to ask where the values come from.

Slide 10: Assessment (2)

On the other hand, assessment in a less traditionalist view, is much more open, collaborative, application-based, task-based and involves real-world learning often by projects. Again, the values that a school has determines where they may stand on such issues, hence one has to ask where the values come from.

However, the Tyler rationale was very general in indicating *where* the curriculum comes from, e.g. from textbooks, from society, from philosophy, from technology, from economic needs, from the needs of higher education, from sociology, from human development needs, from psychology, and so on. In other words, we need to look at what the *contexts* of the curriculum are.

The curriculum planning process has to decide what is *going to happen* on the specific programmes and overall, i.e. *during* the programmes, the *process* of the curriculum. This entails looking at the *dimensions* of the curriculum, for example knowledge,

concepts, attitudes, skills, competencies, teaching strategies, learning strategies, content.

The curriculum should have outcomes. The phrase that is frequently used is 'intended learning outcomes': what do we expect the students to be able to do, know or achieve at the end of the curriculum that they could not do, did not know or had not achieved before it? In what senses do we intend students to improve?

Slide 11: Key elements

What we have is a view of the curriculum that looks at *contexts* within and outside the school and that looks at the building blocks or *dimensions*, and *outcomes*.

Slide 12: Skilbeck's Curriculum Development Model

In identifying the building blocks of the curriculum, the model of curriculum development adds onto Tyler's framework of four questions the issue of contexts (situational analysis). Skilbeck indicates that there is no strict linear sequence (as there was in the Tylerian model), but that the elements can be addressed in any sequence, provided that a coherent framework is the consequence. However, the model from Skilbeck neglects to talk about issues of curriculum change and innovation in response to changing circumstances. Hence it is important to add to the framework of the curriculum the issue of change.

Slide 13: Curriculum elements

This includes the main elements of the curriculum outlined so far: contexts, aims, content, pedagogy, evaluation and change.

So, what we are in a better position to do now is to provide some working definitions of a curriculum.

Slide 14: Hong Kong Curriculum Development Council

As I am based in Macau, this is particularly relevant to my students. The definition of the curriculum from Hong Kong says it thus: 'The school curriculum defines the views of society about "what is worth learning", commensurate with students' abilities at different stages and with their ways of perceiving and learning about the world'. Note the external – society – views of what is important, the issue of student's abilities, and the fact that the curriculum is seen, in part, through their eyes, not only the planners' eyes.

Slide 15: Defining the curriculum

This provides an even more open-ended view of the curriculum, in Stenhouse's widely celebrated view of the curriculum: 'A curriculum is an attempt to communicate the essential principles and features of an educational proposal in such a form that it is open to critical scrutiny and capable of effective translation into practice'. It can be seen here that the curriculum is not definite or fixed. Rather it is an *attempt*; it defines *principles* rather than specific content; it is an attempt to *communicate*, not to prescribe; it is a *proposal* rather than a decision; it is *open* and open to *critical scrutiny* rather than being closed and immutable; and it must be *practical*. This is an important definition because it suggests that the curriculum is less a product and more of a process of debate and ongoing development. This is a long way from the curriculum as the textbook or the syllabus.

Slide 16: The cubic curriculum

In looking at what goes into the curriculum one can suggest Wragg's *cubic curriculum*, in which *subjects*, *pedagogy* and *cross-curricular elements feature*. What does this mean?

Slide 17: Cross-curricular issues

The cross-curricular issues comprise *dimensions, themes* and *skills*. It is intended that *each curriculum subject* should also attend to these matters, so that, for example, a geography curriculum should also attend to dimensions, themes and skills.

8 Talk the participants through the handouts:

(a) components of the curriculum debate, drawing out the contexts (situational analysis), dimensions of the curriculum, and curricular outcomes;
(b) elements of planning: ask the participants to give a general indication on the rating scale of how adequately they feel the several elements have been addressed in the subject curriculum that they largely teach;
(c) PowerPoint slides (distribute different pages during the presentation, not all at once).

9 Indicate that these elements will be returned to during the module.

PRESENTATION 2: Characteristics of the curriculum

Aims: To introduce some key characteristics of the curriculum and how they relate to curriculum planning.

The previous presentation set out some key elements to be considered in building a curriculum. This session looks at some significant features when one is planning curricula, across a whole school, or a subject, or indeed for a specific group of students.

1 Go through the some key characteristics of the curriculum, both overall and by specific areas (e.g. subjects): breadth, balance, relevance, interest, differentiation, match, continuity, progression, coherence.

Slide 1: Title

Slide 2: Characteristics of the curriculum

Go through the slide, explaining the meaning of the terms. Maybe ask for participants' definitions prior to each explanation and put them on the whiteboard, so that they can compare them with others' definitions. Distribute the handout of the HMI definitions of the terms.

2 On differentiation, ask how we can differentiate the curriculum and learning according to meet individuals' needs. Place participants into groups of four and ask them to brainstorm different ways in which curriculum, teaching and learning can be differentiated, and what factors have to be taken into account when planning for differentiation:

- characteristics of the learner;
- characteristics of the curriculum, resources (e.g. time, materials, space);
- characteristics of the teacher;
- teaching and learning strategies and styles;
- differentiation by input, process, output.

How can we differentiate by input (e.g. setting different tasks): examine the strengths and weaknesses of this.

How can we differentiate by process (teaching and learning strategies, organisation, administration, pedagogy, demand, questioning, expectations, input, time allowances, materials): examine the strengths and weaknesses of this.

How can we differentiate by outcome (expecting different outcomes from the same task set): examine the strengths and weaknesses of this.

Gain some feedback from the groups in a short plenary.

3 The key is to match the work to the student.

In pairs address the question: How can we tell how well the work is matched to the students' needs, abilities, levels?

Ask students, in pairs, to think of an example of effective matching and an example of ineffective matching, to share it with the other partner, and to indicate: (a) why there was effective and ineffective matching (the criteria); (b) the kinds of evidence that they used in coming to their judgements; (c) what could be done to improve the matching.

Gain some feedback on how to address and improve matching from the groups in a short plenary. Stress the importance of: (a) meeting individual and group needs; and (b) assessment which is both diagnostic and formative and which is a part of teaching rather than of testing.

4 Present the results of the Lancaster study on matching, noting: (a) task type (incremental, enrichment, practice, restructuring, and revision); (b) the results from the study of poor matching; (c) the problem that the teachers were blind to the work being too easy for the students. *Slides 3 (Task matching)* and *4* (*Students' handling of tasks*).

5 What can be done to improve matching? Make a checklist on the whiteboard.

6 Continue *Slide 2* of the PowerPoint: continuity and progression. In groups of three, how to define progression. Link this to assessment: handout material on progression.

7 Complete *Slide 2* of PowerPoint on characteristics: coherence. Ask them how to ensure curriculum coherence and place it on the whiteboard.

8 Distribute handout of summary characteristics of the curriculum.

9 Revise (very briefly) what has been done in the two sessions: session one was about identifying the building blocks of the curriculum, and session two was about identifying some characteristics of the curriculum, both overall and by specific areas (e.g. subjects).

Handouts

(a) PowerPoint slides (distribute different pages during the presentation, not all at once)
(b) Sheet of characteristics of the curriculum
(c) Sheet of the Lancaster study
(d) Descriptors of levels of skill of a child's performance.

PRESENTATION 3: Using objectives in curriculum planning

Aims

1 To introduce the nature and role of objectives in curriculum planning.
2 To introduce some key elements of action planning and target setting.

This session has a two-fold intention. First it addresses the use of objectives in planning curricula; then it takes the issue wider, to include action planning and target setting to raise student achievements in school.

1 Objectives can be used at several levels: whole school general level of curriculum planning to give direction; subject specific level to give direction to subjects; semester objectives for specific forms or classes; lesson objectives for each session; within-class objectives for determining pedagogical strategies, e.g. questioning. Objectives differ from aims in being specific, concrete, achievable, practical and, frequently, outcome-focused.

2 Turn to PowerPoint slides:

Slide 1: Title

Slide 2: Why set objectives?

Objectives are useful in curriculum planning because they steer the curriculum, give it direction and focus.

Slide 3: Types of objectives

Objectives fall into different types. One frequently used form of objectives is behavioural objectives, which specify the intended behaviour outcomes of learning: 'At the end of this session the student will be able to . . .'. Behavioural objectives obey the ABCD rule, specifying:

- the audience: who will be demonstrating the behaviour (e.g. the students);
- the behaviour: what the audience will be doing (the task);
- the context: with what materials, resources, knowledge, concepts, skills, subject matter;
- the degree of completion: the standards and criteria for successful performance (the assessment).

So, for example, a behavioural objective might be:

'At the end of this session the students will be able to repeat with 90 per cent accuracy Hamlet's soliloquy "to be or not to be"'. Here the audience is the students, the behaviour is the recitation of the soliloquy, the context is Hamlet's speech from the play *Hamlet*, and the degree of completion is 90 per cent accuracy.

Another example might be: ‘By the end of the lesson the students will have successfully learned ten new verbs from the textbook’.

What we can see is that, whilst the objective is very useful in being highly specific and detailed, in fact to try to identify every kind of behaviour that a student might display is unrealistic – we would very quickly have thousands of objectives (a feature which was observed when the behavioural objectives movement was at its height in the USA). Nevertheless there will be times when it is useful to be so specific, not least in the provision of education for students with special educational needs, whose learning progress might be in very small steps.

Behavioural objectives emphasise outcomes that are observable and demonstrable.

A second type of objective is the expressive objective. It derives from the American Elliot Eisner, who was an art teacher for many years. He was concerned that there was more to education than simply the observable outcome, that some outcomes of education were not always observable, and that education was as much concerned with process as it was with outcomes – the doing, not only the outcome. As an art teacher he was concerned with the process as well as the outcome, and with the personal involvement of the students. An expressive objective prescribes the event or the activity and the context but not the outcome. For example: ‘to visit the zoo and discuss what was of interest there’ or ‘to read *The Old Man and the Sea* and identify some key moments in, and significant features of, the novel’. This allows a degree of personal involvement and freedom; it is not tightly prescribed, and enables personal views to enter the scene. In order to protect ‘standards’ Eisner introduces the notion of ‘connoissuership’. A wine taster becomes a connoisseur after refining his or her wine-tasting palate over the years, becoming an expert through such a process of refinement; in this process he or she is guided by another expert, and the process of becoming a wine-taster involves giving and receiving criticism supportively, having a range of features pointed out, and disclosing to another person what one thinks about a particular wine in order to gain feedback on one’s view. So it is with expressive objectives and education – one can become more expert through disclosure, sharing one’s views, self-criticism and receiving feedback from others. Becoming a connoisseur concerns the process as well as the outcome.

A third type of objective is the type three objective, again from Eisner. This places problem-identification, problem-posing and problem-solving at its heart, and so includes objectives to identify, pose and solve problems.

Slide 4: Taxonomies

With so many kinds of objectives, and objectives designed to cover so many fields of education, it is important to try to classify and order objectives. A celebrated example of this, which has not only continued to be attractive to curriculum planners but which is also finding support from more recent brain-based research is a taxonomic approach to classifying objectives. The most famous example of this is Bloom’s taxonomy of educational objectives, which was divided into three domains – the cognitive (intellectual), the affective (emotional), and the psychomotor (physical) – the head, the heart and the hand. In each of these domains Bloom and his associates identified several orders/levels – from lower order to higher order.

Slide 5: Cognitive domain

For example, in the cognitive domain the lower order thinking involves knowledge and recall of facts, and simply understanding; in the middle order it involves application and synthesis of knowledge; in the higher order it involves evaluation, critique, judgment and autonomous thinking.

The different orders or levels of objectives affect curriculum planning, for example one might plan to address low or middle order thinking, or to develop higher order thinking. In classroom questioning one might deliberately put a lower order question to one child, a medium order question to another child, and a higher order question to another.

A low order objective might be: 'To understand Tyler's model of the curriculum'. A higher order objective might be: 'To evaluate the significance of ideological analysis to an area of the curriculum'.

3 Task: put the participants into groups of three/four. They are to do the following:

(i) write a lower order cognitive objective for a piece of the curriculum;
(ii) write a medium order objective for a piece of the curriculum;
(iii) write a higher order objective for a piece of the curriculum;
(iv) write a lower order question to be asked of a student in class;
(v) write a medium order question to be asked of a student in class;
(vi) write a higher order question to be asked of a student in class.

For each of (i) to (vi) identify how you will assess the achievement of the objective/the answer given.

Have a short plenary to feedback some examples and to raise issues in assessment – what are the criteria for assessment of each order of objectives and question. The issue here is that the order of the objective/question affects the assessment requirements, and the assessment requirements will vary. Use some examples of these from the participants' responses.

Slides 6 and 7: Affective and psychomotor domains

Not only does a taxonomy of objectives address cognitive/intellectual functions, it addresses affective/expressive aspects/domain of the curriculum and psychomotor domains. Again, there are differences in the order (low to high) of such objectives.

4 Task: In the same groups, they are to do the following:

(i) write a low order expressive objective;
(ii) write a medium order expressive objective;
(iii) write a high order expressive objective;
(iv) write a low order psychomotor objective;
(v) write a medium order psychomotor objective;
(vi) write a high order psychomotor objective.

Have a plenary, this time not to provide examples, but to identify the *problems* that the participants had in writing the objectives. Coming out of these might be the issue that the domains (cognitive, affective, psychomotor) are not discrete but overlap, and that the levels overlap hugely (in fact they are not discrete), that higher levels draw on lower levels, and that, in fact, the idea of different levels may be suspect – they are different *areas* rather than different *levels*. So, this suggests that the use of taxonomies has to be cautious: they are useful for indicating *general* areas (e.g. this piece of the curriculum is more at the higher order than at the lower order), but they have to be treated with caution – it is simply not possible to pigeon-hole behaviour as neatly as the taxonomies suggest. They are useful as *guides*, rather than being more specific or prescriptive. That said, they often indicate that curricula are planned to be too focused on low and medium order levels rather than at higher order levels.

Slide 8: Emerging issues

What can we take from the discussion so far? Whether one adopts taxonomies, behavioural, expressive or problem-solving objectives, or indeed any other objectives, there is a range of issues emerging in using objectives:

- intended learning outcomes (objectives);
- the field of study or activity;
- the processes and outcomes;
- the order of the activity (low to high);
- the main focus of the activity (e.g. cognitive, affective, psychomotor);
- the criteria for successful performance;
- the assessment of achievement of the objective.

This suggests several features of objectives, regardless of the particular type that one is using. These have been summed up the popular notion of SMART objectives, a term initially from business but which has now found its way into other fields, including education.

Slide 9: Smart objectives

There are different interpretations of the acronym SMART, some of which are provided on the slide. However, each interpretation of a particular letter of the acronym connotes similar features.

Slide 10: Questions for smart objectives

In addressing the SMART objectives there are certain questions that can be raised which indicate the nature of each part of the SMART acronym. SMART objectives strive to be realistic yet to act as 'stretch goals' for planning curricula and learning.

Slide 11: Objectives and action planning

Objectives are an intrinsic part of *action planning*. Action planning can operate at several levels: curricula; students; individual programmes; subjects; whole-school management and so on. There are several key features of action plans:

- Identify where you are now, where you want to be, and how you will get there.
- Specify targets (objectives) in operational, maybe measurable terms.
- Specify how you will know if the targets have been achieved (success criteria and evidence).
- Specify how you will reach the targets (routes to achievement).
- Specify resources required to achieve the targets.
- Specify leadership and management responsibilities in achieving the targets.
- Specify initial and ongoing tasks to achieve the targets.Set time frames for different stages and overall achievement.

It can be seen here that a review of the present state leads into identifying goals/objectives/targets and that these are stated in operational, maybe measurable terms, e.g. by such-and-such a date *x* percentage of F5 students will achieve such-and-such a level of performance. The intention here is to continuously improve learning and curricula. Target setting has become an important strategy in raising standards in Anglophone countries.

Handouts

(a) Bloom's taxonomy
(b) PowerPoint slides (distribute different pages during the presentation, not all at once)
(c) Definition of instructional objectives
(d) Sheet on behavioural objectives
(e) Sheets on action planning
(f) Sheet indicating targets set in UK.

PRESENTATION 4: Levels of planning and planning for higher order learning

(It may be that there is insufficient time for the part on higher order learning; it is important to spend as much time as is necessary on the levels of planning, even if this means sacrificing the higher order learning element – this can be picked up in a later module.)

Aims: To introduce participants to the notion that there are several levels of planning, and that there are common issues to be addressed, albeit at different levels.

It has been mentioned in previous presentations that planning the curriculum has to address elements/building blocks of the curriculum, elements of learning, characteristics of the curriculum, and to have clear, smart objectives to serve a variety of purposes. The issue now is to translate these into practice. This session addresses planning at different levels, and planning for higher order learning. Though these two elements may seem unrelated, it is being suggested here that if planning is to be effective then it must engage the possibility for developing higher order thinking and learning, and that this must be built into the planning of the curriculum.

Slide 1: Title

Slide 2: Levels of planning

There are several levels of planning: the external level, the whole school level, the faculty, department and individual teacher level. Further, the curriculum has to be planned at general, medium and specific levels, and for the long-term, medium-term and short-term. At each level there is a similar range of items and issues (e.g. aims, objectives, content, pedagogy, etc.), though, of course, they are addressed differently at each level. What can one expect at the several levels?

At the overall level there are statements of an entitlement curriculum, i.e. a broad, balanced, relevant, coherent curriculum to which every student should have access. At a general level this will include several features (Slides 3, 4 and 5).

Different levels of planning have different purposes. General levels are strategic, encapsulating the vision of the school and the overall direction in which it wishes to move. More specific levels of planning are tactical, indicating the ways in which the overall plans are addressed in detail and in practice. The general level sets broad goals, aims, principles and outlines, whilst the more specific levels (medium and specific) set translate these into practice; they are more like specific action plans, building on the work on action planning in the previous session.

Slides 3, 4, 5 and 6: General level of planning

In planning the curriculum it is important to know how specific pieces of the curriculum fit into the overall planning of the school's curriculum. Hence there are general statements of the curriculum that will need to be prepared. Accompanying this is an indication also of how these statements will impact on practice, how they will be monitored, and how they are intended to contribute to student achievement. General levels of planning are at the overall curriculum level for the school, to see

how they all fit together to provide a coherent, broad, relevant, balanced and contemporary curriculum, and to state how each area of the curriculum (e.g. subject) contributes to this.

Slides 7 and 8: Medium level of planning

The medium level of planning is more focused on the particular subjects, and provide greater detail of the aims, objectives, contents, pedagogy, key questions and activities, assessment, review and reporting foci and mechanisms.

Slides 9, 10 and 11: Specific level of planning

Specific level planning takes place within each subject and concerns tactical rather than strategic planning, i.e. at the level of shorter periods of time – semester, monthly, weekly, session by session. It concerns much more the day-to-day activity of the sessions.

To guide the planning and direction of the curriculum – both at an overall level and at subject-specific levels it is important to have policy documents. They keep the curriculum 'on course', and can be used as guides for evaluation of the effectiveness of the programme. It is important to have policies on general curriculum matters, for example

It is important to know how effective a programme is being and has been. This requires statements of *success criteria* and *indicators/evidence* to show that the success criteria have been met. These should be included on a policy document. Policy documents have several claims (see handout). They have several focuses:

Slide 12: Curriculum policy document

It is useful if the contents of policy documents have a degree of standardisation across subjects and departments, as this facilitates review, monitoring and comparison. Policy documents can take many forms (see examples).

Slide 13 and 14: Higher order thinking

In planning curriculum it is important to plan for higher order learning, moving the curriculum from the acquisition of inert facts to higher order thinking, application, and using materials, making them relevant to the real world. Higher order thinking is not a new concept; indeed it finds voice in Bloom's *Taxonomy of Educational Objectives* in 1956. Higher order thinking concerns synthesis, evaluation, interpretation, hypothesising, prediction, conjecture, critical thinking and judgement. It involves reflection, self-regulation, testing of ideas, and problem solving. The highest form of 'cognitive engagement' is where learners plan and manage their own learning and exercise considerable autonomy, together with reflection on the learning experience and the incorporation of new knowledge into existing knowledge. Hence planning, living with uncertainty, prediction, making meaning, adopting multiple perspectives on an issue are all characteristics of higher order thinking. Critical thinking involves finding information suitable for a specified purpose; analysing and evaluating arguments, information and sources, separating fact from opinion,

exposing unstated assumptions, weighing evidence, evaluating the logic of the argument and the conclusions.

Problem solving involves the recognition and clarification of the problem, evaluating strategies to solve the problem, selecting a solution, implementing the strategy and evaluating its effectiveness.

A well-constructed programme, with cooperative learning, with an exploratory approach being adopted and with students working at their own pace and in their own sequences, can fulfil the potential of higher order learning. Self-paced learning can provide space for reflection and the integration of experience, understanding and conceptual development.

This stands in stark contrast to many conventional models of learning, in which a lock-step approach is adopted (everyone proceeding uniformly at the same rate and in the same sequence), often with lower order skills preceding higher order skills. Such an approach rehearses the older, outworn models of teaching children to read, and overlooks the significant point that not only can, and are, higher order skills be taught and learned concomitantly with lower order skills, but that this actually benefits the learning of lower order skills. Learning, application, evaluation and problem solving are simultaneous.

The most effective way of promoting learning is actually to embed instruction in the basic skills within more complex tasks, so that, for example the higher order skills of reasoning, comprehension, and design can be taught at the same time as basic skills of computation, word decoding, and language mechanics. An overemphasis on lower order thinking leads to lower quality of thinking; knowledge is not the accumulation of a set of facts and skills but higher order thought processes.

It is important for teachers to develop creative and critical skills in students, and to apply learning to relevant and real-life situations. In turn, this requires a move away from a didactic approach, and towards a role for teachers as enablers of learning.

In planning curricula, it is important to see if and where they have the potential to address higher order learning.

The task
In groups of four, plan a single lesson (the subject matter to be agreed in the group), which will develop higher order learning. Indicate which kinds of higher order learning are intended to be addressed, *how* the lesson will promote higher order learning in the students, how the students will be assessed, and how the lesson will be judged to be a success (success criteria and evidence).

Provide time for this, and, in the plenary session, ask for:

(a) what aspects of higher order learning have been addressed;
(b) how the students will be assessed;
(c) what the success criteria and evidence are.

Handouts for the presentations include
(a) Sample planning documents for all levels of planning
(b) Sample review document for periodic curriculum review
(c) Sample policy documents.

Published on the companion web resource for *A Guide to Teaching Practice* (RoutledgeFalmer).

PRESENTATION 5: Skills and competencies

Aims: This presentation aims to introduce some key issues in, and problems with, planning for skills in the curriculum, and their links to competence-based models of planning. It aims to introduce a widely noted attempt to model a competence-based curriculum, from the Royal Society of Arts. In introducing this, it is intended that participants will be able to evaluate their own curricula for coverage of competencies and skills.

This session takes two related matters in building curricula: skills and competencies.

In planning curricula attention has to be given not only to the skills and competencies to be developed, but also to the level of these. For example, in a previous session attention was drawn to a sequence of low order to high order skills and behaviours (indicating progression and sequencing).

Slide 1: Title

Slide 2: What is a skill?

1 Ask the participants to try to define what a skill is. Then put up the slide, indicating that it is all of these and a lot more, i.e. there is a problem of definition of what constitutes a skill (just as later there will be seen to be a problem in defining a competence). Many people consider a skill to be a practical ability (like riding a bicycle or performing a surgical operation), but this is a limited definition, as it concerns the *domain* of the skill – we say that people have social and interpersonal skills, cognitive skills as well as simply practical skills. So, one of the early stages in planning for skills is to gain agreement on what actually the skills are to be addressed in the curriculum, and how they will be planned, learned, improved and assessed.

Slides 3 and 4: Planning for skills in the curriculum

In planning for skills there is a range of issues to be addressed (go through the slides). Note that the final issue in the slide is one of *transferable skills*: curriculum planners will need to decide in how many contexts the skills (e.g. of problem-solving, of enquiry, of researching) will need to be addressed, and whether the skills learned in one aspect of the whole curriculum can be transferred to another, and what needs to be done to ensure transfer.

2 *Task:* In small groups (around four in a group) identify a particular cognitive skill, a particular affective skill, and a particular psychomotor skill. For each skill:

(a) plan an activity to develop that skill;
(b) set out some criteria to judge what it means to 'get better' at that skill;
(c) what kind of evidence you need to indicate improvement;
(d) how you will classify the levels of skill performance;
(e) how you will assess the skill.

This will be quite a long and maybe complex task, and it is important, in the plenary, not to report back the specific skills and examples, but to report the problems/issues that were faced/raised in each of the five areas, building them up on the whiteboard.

Then proceed to Slide 5.

Slide 5: Assessing skills

This is one published attempt that has been made to identify areas of skill development for assessment purposes. It indicates (in the rows) the areas of assessment for the skill in question and, in the columns, three possible levels of skill development. However, these are only guidelines; in an overall curriculum each level of the curriculum may include a statement of knowledge, concepts, skills and attitudes to be developed (as mentioned in an earlier sessions), so the skill level should be defined in relation to those.

The matter of planning for, developing and assessing skills has been taken up more recently in the notions of a competency-based curriculum. There has been some disquiet about skills, with critics suggesting that they are too narrow, behavioural, measurable, perhaps superficial, and neglect some important areas of knowledge and deeper aspects of education which are not susceptible to skills (e.g. attitudes to learning). The field of competency-based curricula has addressed such criticisms.

However, some of the definitional problems surrounding skills also apply to the term competence.

Slides 6 and 7: What is a competence?

Some people worry that the term competence is just another word for skill; some worry that it is a low-level behaviour. Others are more positive about it, indicating that it can be used at a very high level: would we really want to have an operation from an incompetent surgeon?! Competencies have certain characteristics (Slide 7).

The point is that a competence can be regarded as a starting point for the curriculum, not a finishing point, and that competencies are open-ended statements which can be used for planning and assessment purposes, but which allow for development.

There have been many moves to develop competency-based curricula. In the United Kingdom the Royal Society of Arts, Science and Commerce (RSA) have been running a four-year project on developing a competency-based curriculum. They have identified the areas of competence (five areas).

Slide 8: RSA areas of competence

Within these five areas the RSA identifies key competencies. Note how they are framed in open-ended terms (Slides 9–17).

Slides 9 to 17: Categories of competence

The statements are important, for they cover not only behaviour but attitudes, and in a range of academic and non-academic contexts. Schools can no longer simply be academic teaching shops.

The issues that applied to skills in terms of assessment apply equally well to competencies. It has been suggested that competence-based curricula lean towards formative and diagnostic assessment – assessment *for* learning, rather than summative assessment – assessment *of* learning. Competencies have both measurable and immeasurable outcomes; some would argue that competencies are intrinsically immeasurable.

Handouts for the presentation include
(a) Sample offprint of the RSA project on competencies
(b) Sample of sheet on assessing skills.

PRESENTATION 6: The UK school curriculum

Aims: to introduce participants to the National Curriculum of England and Wales, as a model of the curriculum that has been copied in other Anglophone countries.

The National Curriculum

The present National Curriculum is replete with support material, either available as hard copy in schools or to be downloaded from the website of the Department for Education and Skills (www.dfes.gov.uk and http://www.nc.uk.net/home.html) and the Qualifications and Curriculum Authority (www.qca.org.uk). Such material includes, amongst a wealth of additional documentation, materials and guidance on:

- The National Curriculum subjects, programmes of study, attainment targets and level descriptions.
- Schemes of work for every subject for every key stage, objectives, activities, outcomes, and plentiful resource materials.
- Long-, medium- and short-term planning.
- Links across subjects.
- Links to websites containing further resources.
- Homework.
- Key skills.
- Literacy and numeracy strategies.
- Designing, planning and timetabling the curriculum at all the key stages.
- Assessment and sample materials.
- Planning, teaching and assessing the curriculum for students with learning difficulties.
- Education for gifted and talented students.
- Principles and practices of inclusion.
- Education for sustainable development, enterprise and entrepreneurship, careers education, work-related learning.
- Materials for parents.
- Monitoring the curriculum.
- Related educational research.

The National Curriculum originally applied to students of ages 5–16 in state schools; this has been extended at the lower age range to include children from age three. The curriculum is intended to be broad and balanced, and has two expressed main aims:

Slide 1: Title

Slide 2: National Curriculum aims

‘*Aim 1:*
The school curriculum should aim to provide opportunities for all pupils to learn and to achieve.
Aim 2:

The school curriculum should aim to promote pupils' spiritual, moral, social and cultural development and prepare all pupils for the opportunities, responsibilities and experiences of life.'

It is designed to serve four main purposes:

1 To provide for all students, 'irrespective of social backgrounds, culture, race, gender, differences in ability and disabilities, an entitlement to a number of areas of learning and to develop knowledge, understanding, skills and attitudes necessary for their self-fulfilment and development as active and responsible citizens'.
2 To make expectations for learning and attainment explicit to interested parties, establishing 'national standards for the performance of all pupils in the subjects it includes. These standards can be used to set targets for improvement, measure progress towards those targets, and monitor and compare performance between individuals, groups and schools'.
3 To contribute 'to a coherent national framework that promotes curriculum continuity and is sufficiently flexible to ensure progression children's learning. It facilitates the transition of pupils between schools and phases of education and provides a foundation for lifelong learning'.
4 To 'increase public understanding of, and confidence in, the work of schools and in the learning and achievements resulting from compulsory education'.

The government recognises that, whilst these purposes do not change over time, the curriculum must change over time, to be responsive to changes in schools, the economy and society.

Slide 3: Key Stages

The National Curriculum is organised into *Key Stages* that are age-related. The Foundation stage is for children from the age of three to the end of the reception year; Key Stage 1 is for 5–7 year-olds; Key Stage 2 is for 7–11-year-olds; Key Stage 3 is for 11–14-year-olds; Key Stage 4 is for 14–16-year-olds. It comprises *statutory elements* (core and foundation subjects, Religious Education and, for secondary school students, sex education) and *non-statutory elements* as follows:

Slide 4: Curriculum elements

- *Core subjects* (English, Mathematics, Science).
- *Non-core foundation subjects* (Design and Technology, Information Technology, History, Geography, Modern Foreign Languages, Art and Design, Music, Physical Education and Citizenship), not all of which apply to all the key stages.
- *Religious Education*.
- *Assessment* (at the end of each key stage – ages 7, 11, 14 and 16).

Slide 5: Curriculum framing

The framing of the National Curriculum is described variously in terms of :

1 *Aims* and *purposes*.
2 *Subjects* for each key stage.
3 *Attainment targets* (ATs), within which are eight levels of attainment; (for the foundation stage there are no levels prescribed, but there are e*arly learning goals*).
4 *Programmes of study* (PoS) which specify what students should be taught at each key stage.
5 Eight l*evel descriptions* (LDs) within each attainment target and a category of 'exceptional performance' above level eight; these level descriptions are intended to be used for: (a) assessing attainment at the end of each key stage; (b) planning schemes of work to ensure progression; (c) reporting on students' progress; (d) target setting. The government has also published *performance criteria* for English, mathematics and science, as part of its target-setting agenda, which establish finer gradings within each level description.
6 *General teaching requirements*, which should be applied across the PoS, comprising:

   (a) three principles for inclusion: setting suitable learning challenges; responding to pupils' diverse learning needs; overcoming potential barriers to learning and assessment for individuals and groups of pupils (including pupils with special educational needs, pupils with disabilities, and pupils who are learning English as an additional language);
   (b) use of language across the curriculum: writing, speaking, listening, reading, subject specialist vocabulary;
   (c) use of information and communication technology across the curriculum;
   (d) health and safety (for science, design and technology, information and communication technology, art and design, and physical education), with students being taught: about hazards, risks and risk control; to recognise hazards, assess consequent risks and take steps to control the risks to themselves and others; to use information to assess the immediate and cumulative risks; to manage their environment to ensure the health and safety of themselves and others; to explain the steps they take to control risks.

The key components of the National Curriculum, in terms of coverage, are: subjects, programmes of study, attainment targets and level descriptions.

These are set out as follows (handout material):

	Foundation stage	Key Stage 1	Key Stage 2	Key Stage 3	Key Stage 4
Age	3 to end of reception	5–7	7–11	11–14	14–16
Year groups		1–2	3–6	7–9	10–11
Typical level at the end of the key stage		2	4	5/6	Related to national examinations
Subjects/Programmes of Study					
English		En1: Speaking and listening			•
		En2: Reading			•
		En3: Writing			•
Mathematics		Ma2: Number			Foundation or higher level
		Ma3: Shape, space and measures			
		Ma4: Handling data			
Science		Sc1: Scientific enquiry			Single science or double science
		Sc2: Life processes and living things			
		Sc3: Materials and their properties			
		Sc4: Physical properties			
Design and technology		•	•	•	•
Information technology		•	•	•	•
History		•	•	•	
Geography		•	•	•	
Art		•	•		
Art and design				•	
Music		•	•	•	
Physical education		•	•	•	•
Religious education		•	•	•	•
Modern foreign language				•	•
Citizenship				•	•
Sex education				•	•
Careers education				• (Year 9)	•
Early learning goals	•				
Key skills	•	•	•	•	•
Thinking skills	•	•	•	•	•
Non-statutory guidance					
PSHE	•	•	•	•	•

Religious education is a statutory requirement, together with a daily act of collective worship. Citizenship education, though statutory as a separate subject at Key Stages 3 and 4, is incorporated into Personal, Social and Health Education (PSHE) at Key Stages 1 and 2. The particular features of the Early Learning Goals, Key Skills, Thinking Skills and other areas of the curriculum are set out below (handout).

Published on the companion web resource for *A Guide to Teaching Practice* (RoutledgeFalmer).

The early learning goals for the Foundation Stage:

- Personal, social and emotional development
- Communication, language and literacy
- Mathematical development
- Knowledge and understanding of the world
- Physical development
- Creative development.

Six key skills which permeate all the key stages:

- Communication
- Application of number
- Information technology
- Working with others
- Improving own learning and performance
- Problem solving.

Five thinking skills which permeate all the key stages:

- Information-processing skills
- Reasoning skills
- Enquiry skills
- Creative thinking skills
- Evaluation skills.

The Government also suggests the promotion of four other areas of the curriculum:

- Financial capability
- Enterprise education
- Work-related learning
- Education for sustainable development.

The assessment arrangements for the end of each key stage comprise:

Slide 6: Assessment arrangements

Key Stage 1: Statutory Key Stage 1 tests and tasks, combining teacher assessment judgements with national tests in mathematics and English, with the option for students who are on an accelerated programme to take the tests for the next key stage, and with the possibility of entering children for world-class tests in mathematics and problem-solving.

Key Stage 2: Statutory Key Stage 2 tests and tasks, combining teacher assessment judgements with national tests in mathematics, science and English, with the option for students who are on an accelerated programme to take the tests for the next key stage, with the possibility of entering children for world-class tests in mathematics and problem-solving, and with the option for those who are below or above the level of the tests to take optional tasks.

Key Stage 3: Statutory Key Stage 3 tests and tasks, combining teacher assessment judgements with national tests in mathematics, science and English, with the option for students who are on an accelerated programme to take the tests for the next key stage, with the possibility of entering children for world-class tests in mathematics and problem-solving, and with the option for those who are below or above the level of the tests to take optional tasks.

Additionally the government has provided optional tests in English and mathematics for students at the end of each of the years 3–8.

Key Stage 4: At this stage students enter the public examination system, and are also eligible to gain awards from government recognised agencies.

Slide 7: Examinations at ages 16–19

Following a review of qualifications for 16–19-year-olds in 1996 and developments in National Vocational Qualifications (NVQs) and Scottish Vocational Qualifications (SVQs) developments have been made in qualifications for 16–19-year-olds. For Key Stage 4 several new pathways have been opened: the occupational pathway, leading to National Vocational Qualifications (NVQs); the vocational pathway, leading to General National Vocational Qualifications (GNVQs) or vocational GCSEs; the academic pathway leading to A levels, AS levels and GCSE. These also represented below, together with an indication of the parity across different courses and qualifications.

Handout (Slide 7): Chart of qualifications post-16

Occupational	**Vocationally-related**	**General**		**Level of qualification**
NVQ level 5	Higher level qualifications (those at NVQ level four or above) by a government recognised awarding agency			**5**
NVQ level 4				**4**
NVQ level 3	Vocational A level (Advanced GNVQ)	A level	Free-standing mathematics units level 3	**3** (advanced level)
NVQ level 2	Intermediate GNVQ	GCSE grades A* - C	Free-standing mathematics units level 2	**2** (intermediate level)
NVQ level 1	Foundation GNVQ	GCSE grades D – G	Free-standing mathematics units level 1	**1** (foundation level)
Certificate of educational achievement				Entry level

Each year the government updates and produces a handbook of guidance for the assessment and reporting arrangements at the end of each key stage, and these are sent directly to schools. They provide guidance on changes to assessments, the nature and operation of tasks and tests, teacher assessment, reporting and timetables.

The government has produced specific guidance for the curriculum at different key stages. For the foundation stage it suggests ten principles for the curriculum that it should promote:

Slide 8: Ten principles for the foundation stage

- Personal social and emotional well-being.
- Positive attitudes and dispositions towards their learning.
- Social skills.
- Attention skills and persistence.
- Language and communication.
- Reading and writing.
- Mathematics.
- Knowledge and understanding of the world.
- Physical development.
- Creative development.

It addresses these in six areas of learning for the foundation stage curriculum, as follows (handout):

Slide 9: Six areas of learning in the foundation stage

Areas and aspects of learning for the Foundation Stage

Personal, social and emotional development (PSED)

1 Dispositions and attitudes
2 Self-confidence and self-esteem
3 Making relationships
4 Behaviour and self-control
5 Self-care
6 Sense of community

Communication, language and literacy (CLL)

1 Language for communication
2 Language for thinking
3 Linking sounds and letters
4 Reading
5 Writing
6 Handwriting

Mathematical development (MD)

1 Numbers as labels and for counting
2 Calculating
3 Shape, space and measures

Knowledge and understanding of the world (KUW)

1 Exploration and investigation
2 Designing and making skills
3 Information and communication technology
4 A sense of time
5 A sense of place
6 Cultures and beliefs

Physical development (PD)

1 Movement
2 A sense of space
3 Health and bodily awareness
4 Using equipment
5 Using tools and materials

Creative development (CD)

1 Exploring media and materials
2 Music
3 Imagination
4 Responding to experiences and expressing and communicating ideas

For Key Stages 1 and 2 the Government has suggested that designing the curriculum will need to address such issues as:

Slide 10: Considerations at Key Stages 1 and 2

- Values and aims.
- Curriculum priorities and emphases.
- Adding to the National Curriculum.
- Organising and labelling the curriculum.
- Distributing the curriculum across the key stage.
- Curriculum inclusion and differentiation.
- Curriculum continuity.
- Timetabling.

The same list of items appears for Key Stage 3, together with the inclusion of the school's ethos, curriculum enrichment and the 'packaging' of the curriculum.

With regard to timetabling the Government suggests a minimum of 21 hours of teaching time per week at Key Stage 1, 23.5 hours per week at Key Stage 2, and 25 hours per week at Key Stage 3, excluding registration, collective worship and breaks. How this breaks down by subject, and the total amount of teaching time devoted to the National Curriculum, is set out below (handout).

	Key Stage 3		Key Stage 2		Key Stage 3	
	Hours and minutes	**Percentage of a 21-hour teaching week**	**Hours and minutes**	**Percentage of a 23.5-hour teaching week**	**Hours and minutes**	**Percentage of a 25-hour teaching week**
English	5–7.30	24–36	5–7.30	21–32	3	12
Mathematics	3.45	18	4.10–5	18–21	3	12
Science	1.30	7	2	9	3	12
Design and Technology	0.50	4	0.55	4	1.30	6
ICT	0.50	4	0.55	4	1	4
History	0.50	4	0.55	4	1.15	5
Geography	0.50	4	0.55	4	1.15	5
Art and Design	0.50	4	0.55	4	1	4
Music	0.50	4	0.55	4	1	4
Physical Education	1.15	6	1.15	5	1.30	6
Religious Education	1	5	1.15	5	1.15	5
Citizenship					0.45	3
Modern Foreign Language					2	8
Total	17.30–20.00	84–96	19.10–22.30	82–96	21.30	86

With regard to Key Stage 4, the Government's proposals for this age group include:

Slide 11: Considerations at Key Stage 4

- a more flexible curriculum;
- world class technical and vocational education;
- a new Matriculation Diploma to which all young people can aspire to achieve at age 19;
- strong support from a variety of stakeholders, including pastoral systems at school;
- greater responsiveness to students with special educational needs, from a range of ethnic backgrounds, and those at risk of social exclusion;
- closer collaboration between schools, colleges and training providers;
- flexible access and delivery of learning through ICT;
- widening choices for 14–19-year-olds;
- increased commitment to lifelong learning and employability;
- more rounded, motivated, responsible citizens and workers.

To achieve these aims will require changes to the 14–16 curriculum, with greater attention being paid to student motivation, a sense of achievement, and a view of education which does not cease at age 16. This entails a reduction in the number of compulsory subjects in order to increases the possibility for more work-related and vocational learning. The government suggests that English, mathematics, science and ICT continue to be compulsory, together with citizenship, religious education, careers education, sex education, health education, physical education and work-related learning. Students could elect to follow a modern foreign language, design and technology, the arts and humanities in Key Stage 4. Greater guidance at points of subject choice needs to be available at age 14, together with a range of new-generation Modern Apprenticeships for the 14–19 vocational pathway. For the 16–19 curriculum a range of new qualifications is under way, including the Advanced Extension Award and the dropping of the separate labelling of academic and vocational A levels. Students in the 16–19 age range might be encouraged to remain in education through financial support. At the time of writing these are proposals only.

Slide 12: National Curriculum websites

Handouts
(a) chart of the National Curriculum
(b) early learning goals, key skills and thinking skills
(c) six areas of learning for the foundation stage
(d) time allowances for the National Curriculum
(e) examples of the National Curriculum.

Provide copies of the National Curriculum documents for the participants to view (handouts and sample booklets).