University of Cambridge International Examinations

Curriculum planning and design: International Perspectives

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‘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.’

(Stenhouse, 1975:4)
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Executive Summary

This review identifies what in the international research and policy literature are identified as the key issues which anyone needs to address in the first stages of the development of a new curriculum. It clarifies the arguments which continue to inform decisions and provides illustrations from international experience of the ways in which different countries (chosen in particular from among those regarded as having successful educational systems) have addressed these issues.

The key issues that are identified and explored here are as follows:

1. What is ‘the curriculum’?
We are assuming here a relatively narrow view of the curriculum (at least to begin with – see section 12 below) i.e. some kind of written description of what at different stages of schooling teachers are expected to teach and/or students are expected to learn. We shall need to decide what needs to go into such a description both at the general level, with which we are concerned here, (i.e. the shape and character of the curriculum as a whole) and what we shall move on to, which is the shape and character of particular elements of this curriculum (e.g. subjects or areas of knowledge or skills).

2. Educational and curriculum values and
3. From values to aims
These two sections are intended to help us clarify the values which we see as informing educational policy and practice in Kazakhstan and giving direction to the curriculum and the pedagogy associated with it. This section invites consideration of what sort of individual qualities schools are seeking to develop, for what kind of society they are seeking to equip young people to build and to succeed in and what parts of Kazakhstan’s and the world’s cultural inheritance we want to give them access to and what forms of life we want to introduce them to.

4. From aims to objectives, outcomes and standards
Statements of curriculum values and aims tend to offer relatively high level directives as to what is required in a curriculum. For operational purposes these are typically translated into more specific requirements – at least when you get down to, for example, subject level specifications. This section of the review reflects long-standing debates about the best way to approach this task.

5. Design principles and decisions
This section focuses on what are in a sense more technical issues to do with the considerations which need to be taken into account in designing a curriculum – notably the principles of coherence, continuity, progression and differentiation.

6. Breadth, depth and balance as curriculum design principles
It is always easy to make a case for the inclusion of something in a curriculum; the real challenge is how to avoid overcrowding it and so deciding what to leave out. This section invites consideration of different approaches to this problem.
7. The organisation of knowledge in the school curriculum and 8. Skills in the curriculum
The question here is how we categorise knowledge for the purposes of curriculum planning. Do we stick to traditional subjects (or ‘areas of knowledge’ though there are very many of these) – or do we give up these categories in favour of, for example, topics or themes – or skills? International literature and practice has brought the language of skills very much to the fore in recent years (though these have often been falsely opposed to ‘knowledge and understanding’). How, if at all, will Kazakhstan incorporate skills in its curriculum?

9. Language policy and the curriculum
Key issues for Kazakhstan include decisions about both the language of instruction at different stages in the Nazarbayev Intellectual Schools (NIS) and the additional languages which will be studied. In addition, we need to ask how much time in total can be spared for language learning if there is to be scope for anything else in the curriculum.

10. Educational values (again), aims and pedagogic principles
Questions of pedagogy cannot be separated from questions of the content of the curriculum. The chosen ways of teaching and learning constitute elements of what is learned, so we need to return to the values which we want to give direction to the curriculum to inform decisions about teaching and learning.

11. How tightly should we specify the curriculum?
We need to distinguish between the curriculum as it is defined nationally, the school curriculum and the curriculum as delivered by the teacher in the classroom – and to consider how extensive is the centrally defined curriculum and how much scope is left for schools and school teachers to complete the picture.

12. Narrower and wider notions of the curriculum
We return here to a reminder of a wider notion of the curriculum, to include, for example, the learning conveyed through the organisational culture of the school. Most importantly this section serves to remind us that the curriculum that teachers work to and which students experience will be as importantly constructed by the system of examinations and assessment, by teachers’ guides and by textbooks as by any curriculum document as such, and that we shall need above all to ensure coherence and consistency between these different sources of the curriculum.
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Introduction

There are pragmatic and also more radical approaches to the development of a curriculum for schools. The pragmatic approach is easier, less challenging. You identify sources of dissatisfaction with the current curriculum – aspects of the curriculum which frustrate teachers or lead to student disengagement – and you tinker with these, leaving something out here, adding something there, revising one part or another in the hope of remedying the problem. Typically this is an ongoing process. On the whole, such an approach calls for only minor adjustments from teachers or students.

However, the Nazarbayev Intellectual Schools (NIS) are explicitly an invitation to a more fundamental reconsideration of the school curriculum designed to enable Kazakhstan’s students to provide intellectual leadership in their own country and to be competitive participants in an increasingly globalised intellectual, economic and cultural community. For this reason this document approaches the task of the redesign of the curriculum from first principles: it offers a route through a fundamental reconsideration of what Kazakhs want from the school curriculum and more particularly what they want the Nazarbayev Intellectual Schools to achieve for their students and to contribute to their community. However radical our ambition, we should nevertheless heed Le Métais warning that:

‘There is no point at which education can start with a clean slate - there are always inherited structures, pupils part-way through the process, and teachers with knowledge, skills and attitudes acquired to meet previous needs. The benefits of reforms in one aspect, for example, the curriculum, will not be fully achieved, or demonstrable, until other elements (e.g. teaching styles, materials and assessment instruments) have been adapted.’ (Le Métais, 1997:4)

We might also observe that, for example, in Hong Kong, which has been through a major reprocessing of its curriculum, this process took ten years, with each stage of the process being subject to public consultation. Kazakhstan might not have this amount of time, but we should perhaps recognise that fundamental change is not achieved overnight.

This review is intended as a resource for a workshop which will take place in Kazakhstan in July 2011 and for the continuing work on the design of the curriculum for the Nazarbayev Intellectual Schools and for the subsequent realignment of the national curriculum of Kazakhstan. It sets out to: represent some of the key issues which curriculum developers have to address; indicate the state of the argument in the international literature; and illustrate some of the ways in which the issues have been addressed in a variety of international settings.

Some of these are issues to which NIS management has already given considerable thought – and we shall be able to move swiftly through this part of the process. Other issues will require more extensive consideration. The workshop will be sufficiently flexible to respond to these different conditions.
1. What is ‘the curriculum’?

‘Definitions of the word curriculum do not solve curricular problems; but they do suggest perspectives from which to view them.’ (Stenhouse, 1975:1)

For the purposes of the first workshop we shall treat the curriculum as a statement, a description of or prescription for what the Nazarbayev Intellectual Schools set out to teach and/or what they intend their students to learn in the classroom. This will be a document that will provide a principled direction and structure – a framework – for more detailed descriptions of the components of the curriculum which will be taught and learned at different stages of schooling.

This is, however, a rather restricted view of the curriculum, and the final section of this report will point to the importance of a wider and perhaps more sophisticated view of the curriculum, which will include reference to:

(i) The curriculum which is constituted by the teaching/learning requirements of the examination and assessment system, by school texts or the teachers’ guides (as well as the sort of programme description that we shall be developing).

(ii) The curriculum which is constituted by the learning that arises out of the school’s institutional structures, practices and culture.

Both (i) and (ii) need to be brought into coherence with the curriculum more narrowly defined.

Further we need to be aware that the school is not the only source of young people’s learning and to take account of:

(iii) The curriculum as including the learning that takes place through non-formal systems outside as well as formal systems inside the school.

Finally, we need to be alert to the sometimes quite radical distinction between:

(iv) The curriculum as reflected in the learning outcomes intended by the teachers and the actual learning outcomes constructed by the learners.

However, for the most part this review will focus on the curriculum understood as a statement of the teaching that is required and/or the learning which it seeks to achieve. We shall discuss these alternative approaches to describing the curriculum in section 4 below, but it is perhaps worth signalling from the start that international practice has moved strongly in favour of specifying the curriculum in terms of what students learn. This has a number of advantages. Notably:

- It helps to close the gap indicated in (iv) above between teachers’ intentions and students’ actual experience – by focusing teachers firmly on the latter.
- It encourages a more student-centred approach to teaching and learning.
- It facilitates the work of those involved in the assessment of student learning.

There are however certain cautions about proceeding single-mindedly in this direction, which will be explored in section 4.
Questions

- Are we happy with:
  ‘description of or prescription for what the Nazarbayev Intellectual Schools set out to teach and/or what they intend their students to learn in the classroom’
  as a working definition of the curriculum that we are going to describe?

- To what extent do we want to focus on statements of:
  i) the teaching which is required or
  ii) the learning which we hope to achieve
  in our curriculum description?
2. Educational and curriculum values

A curriculum (statement or description) will always express in some way a certain set of educational and perhaps broader societal values. It cannot avoid doing so, because education is itself about a selection of the knowledge, understanding, skills; the selection from a culture, to which one generation believes it most important that another generation should be introduced; it is about the kind of people we want our young people to become and the forms of human excellence we want them to realise; it is about the ways of life which we want them to enjoy (or at least to have the opportunity to enjoy) and about the kinds of citizens we want them to become.

‘Education is at least partly about the overall aims that society has for itself and how these aims are realised in practice. It cannot, therefore, be a neutral technical exercise, but is invariably a deeply ethical, political and cultural one bound up with ideas about the good society and how life can be worthwhile.’ (Winch and Gingell, 2004, Preface).

Many national curricula are based upon and preceded by a strong statement of the values that underpin them. The Finnish curriculum, for example, is introduced by a powerful statement:

‘The underlying values of basic education are: human rights; equality; democracy; natural diversity; preservation of environmental viability; and the endorsement of multi-culturalism.’

And it goes on to require that in the specification of the local curriculum (based on the national framework) ‘the values that underlie education are to be specified’. (Finnish National Board of Education, 2004:12)

There are three key reference points for any clarification of the values that, for example, the NIS seek to realise in their curriculum. These are:

A view of the sort of individual that the system seeks to develop

‘Teachers and parents need a clear picture of the sort of person we would like a young person to become. This means thinking about the personal qualities that, by and large, we consider important — such things as wholehearted absorption in activities and relationships, kindness, respect for others as equals, independence of spirit, enjoying working with others towards shared goals.’ (White, 2007:25)

What sort of a student, what sort of adult, what sort of a citizen do SS seek to develop? And what are the implications for the curriculum?

In a number of statements notions of the ‘rounded’ or ‘well balanced’ person have provided a basis for a view of the importance of achieving a balance in the curriculum between, for example, arts and sciences or between intellectual development and physical development or of maintaining a wide range of subjects into the late stages of schooling. The Singapore education system, for example, aims to provide students with ‘a holistic and broad-based education’ and its government’s statement of Desired Outcomes of Education (DOE) articulates ‘the importance of holistically nurturing students to become well-rounded persons - morally, intellectually, physically, socially and aesthetically through a set of eight core
\textit{skills and values’} (Hodge undated, 1 – see below under ‘skills’ for more detail). The Singapore curriculum is indeed firmly articulated in terms of the sort of people they seek to develop:

\begin{quote}
\textquote{The person who is schooled in the Singapore Education system ... has a good sense of self-awareness, a sound moral compass, and the necessary skills and knowledge to take on challenges of the future. He is responsible to his family, community and nation. He appreciates the beauty of the world around him, possesses a healthy mind and body, and has a zest for life. In sum, he is}
\end{quote}

- \textbf{a confident person} who has a strong sense of right and wrong, is adaptable and resilient, knows himself, is discerning in judgment, thinks independently and critically, and communicates effectively;
- \textbf{a self-directed learner} who takes responsibility for his own learning, who questions, reflects and perseveres in the pursuit of learning;
- \textbf{an active contributor} who is able to work effectively in teams, exercises initiative, takes calculated risks, is innovative and strives for excellence; and,
- \textbf{a concerned citizen} who is rooted to Singapore, has a strong civic consciousness, is informed, and takes an active role in bettering the lives of others around him.’

[Source: Singapore Ministry of Education website at: \url{http://www.moe.gov.sg/education/desired-outcomes} downloaded 11th May 2011. See Appendix A for further elaboration of these outcomes in relation to key stages of education]

In the western liberal tradition and drawing from Graeco Roman thought the ideal of the rational autonomous person has featured strongly. In such a tradition the very imposition of compulsory schooling and a compulsory curriculum could be justified only in so far as it provides a basis for the exercise of autonomous choice in maturity (see e.g. White, 1973, 1990).

Closer to home, the Cambridge Curriculum (in practice a set of individual subject specifications but with common overall aims) describes the sort of students it is seeking to cultivate in the following terms:

\begin{quote}
\textquote{The Cambridge Curriculum ... is dedicated to developing learners who are confident, responsible, innovative and engaged.’} (University of Cambridge International examinations (2011 A and 2011 B:1)
\end{quote}

An OECD Report recommends that Kazakhstan should be developing: ‘\textit{globally minded, locally responsible, and internationally competitive students}’ (OECD, 2010:4).

It will be important for the Nazarbayev Intellectual Schools to consider how much significance they wish to attach to the notion of the \textit{intellectual} in their vision of what they are seeking to achieve. What sort of \textit{intellectual capacities} does this kind of person possess? Wide-ranging knowledge and understanding which allow him or her to speak intelligently on all sorts of topics? A certain agility of mind that allows him or her to adapt and apply knowledge in unexpected ways (and still to talk
intelligently when he or she actually knows very little)? A love of ideas even in their more abstract form? But there is a long tradition of writing that goes back at least to Aristotle which speaks about intellectual virtues, such as: honesty, integrity, carefulness, thoroughness, agility of mind, imagination; a person marked by humility with respect to his or her own opinions but also with the courage to stand up for them and to challenge the opinions of others. Further perhaps this ideal extends to the notion of the intellectual citizen: one with rhetorical skills and eloquence to bring this intellectual equipment to bear in the public space informing and challenging both the people and public institutions. [See footnote to section 7 below for an interesting example from an OECD project designed to engage students practically in informing their communities about environmental issues in their own locality.]

The point here is not to prescribe what kind of person the NIS should seek to cultivate but to point out the need for the schools to develop their ideas about this as part of the process of redesigning the curriculum. Might more careful analysis of the idea of the intellectual help to clarify some of what is to be distinctive about the Nazarbayev Intellectual Schools?

A view of the sort of society that the people of Kazakhstan seek to build

‘Education … is a value laden activity, inextricably connected to our broader aspirations for society’. (Levin, 2004, p.2)

The Singapore curriculum, for example, makes a direct connection between its vision for its schools and future citizens and its vision for society: Minister of Education, Winston Hodge described the vision of the Ministry of Education (MOE) in “Thinking Schools, Learning Nation” and explained the need

‘To prepare a generation of thinking and committed citizens who are capable of contributing towards Singapore’s continued growth and prosperity…’. (Hodge, undated:1)

A school curriculum inevitably reflects some view of the requirements of the society that a new generation are expected to inhabit and/or to build. And again NIS need to give some thought to this. What are the significant reference points in such a society for the design of the school curriculum? For example:

- A view of that society as increasingly integrated with a global economic and political community might carry implications for language teaching, for a wider understanding of that global community and for notions of world and not just national citizenship.

- A view of that society as one in which there is increasingly close integration of different ethnic and language communities might invite consideration of how the schools themselves might reflect such integration or contribute to its success.

- A desire to develop democratic institutions and practices might indicate a need to give students a greater voice in the decision making processes of their own schools.
Again, the point of these examples is to pose a question which the NIS need to answer in their own terms, not to prescribe the answer. For what kind of society are the schools seeking to prepare their students or to equip them to build?

**A view of forms of life and activities which might be worth engaging with for their own sake**

Some parts of the curriculum are there because of their utility and instrumental value. We have to learn to decode text (to ‘read’ in this limited sense), for example, because of everything that that ability opens up for us. But we should not allow this instrumentalism to govern the whole curriculum. Somewhere too we should be using this skill to read what deserves to be read simply because of its intrinsic value, for the sheer excitement of the imagination, the elevation of the spirit, the opening of the mind. Of course the curriculum will include all sorts of things that we judge to be useful, but it also has a function in opening to a new generation aspects of life, of history and of the contemporary world, of our civilisation and culture which we view as having intrinsic value, which are perhaps not easily accessible without sustained study and which we want to feel confident that students have had at least a reasonable chance to engage with, whether or not they choose to pursue these areas of human understanding later in their lives (White, 1973 and 1990).

In many contexts these considerations would inform a determination that all students should have some teaching of, for example, their own country’s history; national and international literature; music and the creative arts – perhaps including some history of art.

But the same considerations would also underpin approaches to subjects which may more easily be justified by reference to, for example, their social utility. Science educators want to engage students with science not just because it may help them get a job or because the national economy needs more scientists, but because of the excitement of science, the wonders that it can reveal, the empowering character of its rigour and discipline. Similarly, mathematics is not just a useful set of basic skills, but a complex form of intellectual activity which has its intrinsic fascination and satisfactions.

So a further set of values which go to inform curriculum planning are derived from views about the kinds of activity, ways of life, or what the Nobel prize winning economist, Amartya Sen, calls ‘beings’ and doings’ (Sen, 1999) to which, we believe, young people should be introduced, because of their intrinsic value, so that at least they know enough to be able to make a choice to pursue such activities into adult life if they come to share a view of their intrinsic interest and value.

### Questions

- What sort of a student, what sort of adult, what sort of a citizen do the NIS seek to develop?
- What are the implications for the curriculum of the above?
- For what kind of society do we want the curriculum to prepare a new generation?
- To what forms of life and life experience do we want to introduce young people?
3. From values to aims

A statement of the aims of the curriculum is a kind of summation of the values (of the kind indicated above) that we want to drive and give direction to the curriculum. It reflects the aspirations of the curriculum and, hopefully, those committed to teaching the curriculum in our schools.

Clarification of the aims of a national curriculum is an important precursor to looking at the curricula and practices of other countries or to entering into the business of international comparisons and international competitiveness. Not all educational systems are trying to achieve the same things, so comparative scores may be meaningless. As O'Donnell warns in an introduction to an International Review of Curriculum and Assessment Frameworks:

‘Linking progress to purpose is essential… educational purpose is an important determinant of progress. It is therefore necessary to use the comparative information on possible outcomes, in order to address questions such as: what does the nation want its achievements to be?’ (O'Donnell, 2004:ii)

This said the International Review of Curriculum and Assessment Frameworks (O'Donnell 2004) shows a remarkable degree of congruence across the eighteen countries reviewed (almost exclusively advanced industrial countries) when it comes to national education aims such as:

- Excellence/ raising standards
- Individual development
- Values/ ethics/ morals
- Emotional/ spiritual development
- Social development
- Personal qualities
- Equal opportunities/ multiculturalism
- National economy (though neither France, Germany nor the Netherlands apparently include reference to this)
- Preparation for work/ career/ adult life
- Basic skills – literacy/ numeracy
- Scientific/ technological skills
- Foundation for future education
- Knowledge/ skills/ understanding
- Citizenship/ community/ democracy
- Cultural (heritage/ literacy)
- Creativity
- Non-mother language skills
- Environment
- Health/ physical/ leisure
- Lifelong education
- Parental participation
- Provide for special learning needs (disadvantaged or gifted children)

All of these are very widely subscribed to, though:

(i) given their generality, different countries may well attach different meaning or
significance to such high level aims, and

(ii) the report makes no attempt to weight the importance or priority which is attached to these different aspirations in different countries – and this may well be where the real differences emerge. Similarly when these aims get translated into the primary curriculum, there are considerable commonalities in the subjects which appear (except where religious education is concerned and in relation to the teaching of languages). The variations are in terms of what is optional and what is compulsory and in the more detailed specification of programmes.

It may be helpful at this point to provide some examples of statements of aims.

The Scottish Government’s ‘Curriculum for Excellence’ expresses its curriculum aims in terms of four capacities:

‘The purpose of the curriculum is to ensure that all young people become Successful Learners, Confident Individuals, Effective Contributors and Responsible Citizens. This applies at all stages from pre-school through to end of secondary schooling and into lifelong learning. It is, therefore, vital that teachers should ensure that the content of courses, the learning approaches employed and the support given to learners reflect these aims.’ (The Scottish Government, 2010:2)

When the Hong Kong government initiated its curriculum reform process it set out what it called Seven Learning Goals:

- Responsibility
- National identity
- Habit of reading
- Language skills
- Learning skills
- Breadth of knowledge
- Healthy lifestyle

(Curriculum Development Council, 2001)

The English Qualifications and Curriculum Development Agency (as it then was – its functions have since been drawn back into the Ministry) set out two main aims and four ‘purposes’:

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, cultural development and prepare pupils for the opportunities, responsibilities and experiences of life.

The purpose of a statutory core to the curriculum is:

Purpose 1: To establish an entitlement
Purpose 2: To establish standards
Purpose 3: To promote continuity and coherence
Purpose 4: To promote public understanding
Pring and Pollard (2011:6), in a review of curriculum reviews suggest that:

‘Policy and frameworks of entitlement should reflect the broad aims of educating persons, such as:

- Understanding of the physical, social and economic worlds
- Practical capabilities
- Economic utility
- Moral seriousness
- Sense of community, collaboration and justice
- Sense of fulfilment
- Motivation to continue learning even to the “fourth age”’

However, lists of aims in isolation are not a lot of use in curriculum development. First, as John White has pointed out:

>A list of aims is of little use without a rationale. Teachers, parents, pupils, administrators, inspectors and others with an interest in what schools are for need to know why items in a list have been chosen. They need to understand what values lie behind them – how the items fit together in a unified vision’. (White, 2007: 1)

… and this is precisely why this report began by inviting consideration of the social and personal values that might provide such a rationale.

Nor are aims very much use if they remain, as White puts it, ‘high-sounding mission statements with next-to-no connection with the school curriculum itself’. (White, 2007:13)

They need to be translated into more operational terms. This is the step we take in the next section.

**Question**

- What aims do we want to set for the new curriculum for Nazarbayev Intellectual Schools?
4. From aims to objectives, outcomes and standards

For a long period in the mid twentieth century the international literature on curriculum planning presented relatively high level statements of educational aims as the precursor to statements of more specific goals or objectives – specificity being the key to their utility (cf Tyler, 1949; Popham, 1972 – though the approach to curriculum design goes back at least to Bobbit’s 1918 text simply entitled *The Curriculum*). In 1967, Elliott Eisner (later to become President of the American Educational Research Association) was able to declare:

> ‘If one were to rank the various beliefs or assumptions in the field of curriculum that are thought most secure, the belief in the need for clarity and specificity in stating educational objectives would rank among the highest’. (Eisner, 1967)

Further, some have required that such objectives should be expressed in terms of learning outcomes and behaviours, which in turn and rather neatly provided the basis for assessment of students and hence an evaluation of the effectiveness of the curriculum. Though this approach has survived in some settings, it was also fiercely critiqued and in some measure discredited as a characterisation of a properly educational programme. Having observed the confidence with which the commitment to an objectives-based approach was held, Eisner immediately posed the question ‘*Behavioural objectives - help or hindrance?*’ (Eisner, 1967) The behavioural objectives approach lent itself more appropriately to contexts where very particular learning outcomes were required and these could sensibly be pre-specified, but much less appropriately where one is looking for:

(i) A creative and hence unpredictable response from students (*curriculum theory as it pertains to educational objectives... has not sufficiently emphasised the degree to which the prediction of educational outcomes cannot be made with accuracy*) (Eisner, 1967).

(ii) A teacher who can spontaneously seize the moment when he or she sees an opportunity to realise something of educational value.

(iii) Educational goals like enhanced understanding (as contrasted with knowing that) that could be satisfied in a variety of ways.

(iv) Students to play a significant part in constructing their own learning and hence in determining their own learning outcomes.

(v) Teachers to be responsive to the different and diverse educational needs of their students and hence ready to be flexible in their interpretation of the curriculum.

(vi) Learning in the form of changed awareness, consciousness, appreciation and other mental states which are not necessarily reflected in immediate or obvious changes in behaviour.

Of course, these last six concerns are precisely the sort of concerns that have featured significantly in educational discourse over recent decades – and they have undermined attachment to the idea of a tightly pre-specified set of learning outcomes – and especially the determination that these should be expressed in behavioural terms. We need to be able to evaluate the outcomes of learning by reference to our educational aims, but this does not necessarily require their pre-specification. As MacDonald argued in the middle of the behavioural objectives debate:
'There is another view... which has both scholarly and experiential referants. This view would state that our objectives are only known to us in any complete sense after the completion of our act of instruction. No matter what we thought we were attempting to do, we can only know what we wanted to accomplish after the fact. Objectives by this rationale are heuristic devices which provide initiating consequences which become altered in the flow of instruction. In the final analysis, it could be argued, the teacher in actuality asks a fundamentally different question from “What am I trying to accomplish?” The teacher asks “What am I going to do?” and out of the doing comes accomplishment.'

(MacDonald, 1965: 613)

However, a modified behavioural objectives agenda later re-emerged in the discourse of ‘competence’ based curriculum design, where the emphasis was on what the learner was actually able to do. This approach attracted greatest support in contexts including vocational training and then professional training (including the training of teachers) in which practical action was central to the learning that was sought, but it ran into increasing problems as it was applied to higher levels of learning where such practical action depended not just on skills which could be rehearsed but where wide-ranging knowledge and understanding, reflectiveness and judgement were key. (See Elliott et al, 1995). However, there remain certain attractions to presenting at least parts of a curriculum programme in terms of, let’s call them, things which we expect students to be able to do – and these are discussed in section 12 on skills and the curriculum below.

Elements of competence-based curriculum design were refined and developed in a further approach to curriculum design which has swept across the world – the standards approach (or, more accurately, approaches, since there is considerable variety in the ways in which this discourse has been interpreted). The standards approach still focuses on what the learner can do, on performance in some form (which might include performance on a test) and, like the behavioural objectives approach, maintains a strong link between the specification of the learning outcome and the possibility of measuring it. The standards approach adds, however, the extra specification of a desirable level of attainment which is to be demonstrated through this assessment. Wheeler and Haertel (1993) define standards in these terms:

A standard is the level of performance on the criterion being assessed that is considered satisfactory in terms of the purpose of the evaluation.

By extension this provides a basis for another part of the extended discourse around standards which is that of targets: the prescribed standards become targets for individual or institutional or system achievement and measures by which their success or failure can be judged. They become in this way a powerful instrument of political control and accountability, and are loved or hated, depending on one’s attitudes towards such control systems.

Indeed in England, such was the power of the combination of: (i) a standards based approach to curriculum design; (ii) the introduction of national targets for schools based on these standards; (iii) regular testing of schools and the system against such standards and targets; and (iv) the publication of the results in national league tables, that it began to seriously distort the curriculum in schools and the behaviour of teachers. Anything that was not included in the tests – ie anything except maths, science and language -- was almost totally marginalised (see warning in sections 5 and 12 below about the need for coherence between curriculum and assessment)
and teachers were drawn into all sorts of improper collusions with students in an effort to boost test scores. Students (and teachers) were put under all sorts of stress by the requirements of the (frequent) testing. (Oates, 2010; Alexander, 2010; Rose, 2009).

**Question**

- What approach shall we adopt to the more detailed description of the learning we want to take place under the NIS curriculum? Do we want to express this in terms of experiences we want students to have? In terms of what they need to know and understand? In terms of learning outcomes, competence(s) and standards? In terms of skills (see section 8 below)? In terms of attitudes, behaviour and values?
5. Design principles and decisions

This review has already illustrated ways in which important social and personal values necessarily enter into curriculum decision making. Such values are potentially controversial, appropriately determined, perhaps, by democratic political processes; but they require a judgement to be made.

There are, however, more technical features of curriculum planning which are perhaps less controversial and which can be offered with more conviction. These are the (interconnected) principles of coherence, continuity and progression.

Coherence

The requirement for curriculum coherence is often linked to the consideration of ‘the whole curriculum’ and not just of the separate subject requirements…

‘A coherent curriculum … has a distinctive form and adds up to a satisfying whole that in some way makes sense to those who experience it.’ (Weston Barrett and Jamison, 1992:3)

The principle of coherence implies that designers should have thought of areas in which there might be overlap or duplication, though with awareness this can be turned into useful reinforcement of learning. The 1991 Government of Flanders Act, for example, required consideration of what it called ‘horizontal coherence’ ie that ‘mutual relationships between areas of content at each stage are pursued, and overlaps avoided where possible’ (CERI/OECD, 1998:43). The principle of coherence also implies that curriculum designers need to give thought to the skills which might be required in one subject but developed in another so that these are introduced in a timely and helpful manner (‘vertical coherence’?). For example, science and geography may require students to present information in graphical form, but are they to teach such graphical representation or will it be taught in good time in the maths department and then applied in other subject areas. If the geography department is teaching about the geography of India and the history department dealing with the history of India, will anyone have planned in the connections which these parallel programmes invite? There are some areas of the curriculum – e.g. language development – which are central to every area of the curriculum and for which the principle of coherence invites the consideration of approaches to language development which run across the curriculum and are planned so as to maximise the impact of language teaching as a whole.

Oates argues however for a stronger or more inclusive notion of coherence which is about aligning the whole educational endeavour behind the same goals.

‘This is not just a trivial, common-language use of the term ‘coherence’. A system is regarded as ‘coherent’ when the national curriculum content, textbooks, teaching content, pedagogy, assessment and drivers and incentives all are aligned and reinforce one another.’ (Oates, 2010:13)

In this same spirit when the Cambridge review of primary education in England looks at how aims are translated into practice, it writes of ‘contexts for implementation’ and includes not just ‘specific subject domains’ but also ‘generic pedagogy’ and ‘the life of the school and the community’ (Alexander et al, 2010: 258). Transnational analyses (notably by Schmidt, W. and Prawat, R. (2006)) suggest that coherence in
this extended sense is one of the most important ‘evidence based design principles’ for curriculum development. Evidence from TIMSS, in particular, argues that ‘curriculum coherence’ in this sense is associated with high performing education systems.

Continuity

The requirement for continuity implies that designers should have thought about ways in which learning can be sustained over time and across, in particular, transitions from teacher to teacher, from class to class or between one school and another (where, notoriously, students tend to lose the ground that they have previously gained). This argues for some consistency in the presentation and ordering of the curriculum across the whole system, so that students can make the transition from, for example, primary school to secondary school or from study in one part of the country to study in another part of the country without unnecessary disruption in their learning.

Progression

The requirement for progression implies that curriculum designers should give thought to the ways in which students’ understanding is deepened and extended over time, which also requires attention to students’ developing capacities. One may be studying history or biology at age 10 and still at age 16, but you would expect the nature of this study to change over this time, to reflect the growth in maturity and intellectual sophistication of pupils and to build on rather than to ignore the study that they have already accomplished, both within a particular subject area and across the curriculum.

The principle of progression also works in the opposite direction: it requires that thought be given to the necessary prerequisites which need to be put in place if, for example, a student is to proceed to the study of medicine, or engineering or law in higher education or to vocational training in child care, IT or horticulture. An OECD report has recommended that Kazakhstan develop a ‘ladder of qualifications’ with clear progression routes up the ladder (OECD, 2010:2).

The notion of progression should not be interpreted too crudely as a set of steps one climbs or as indicating that one has to wait till later maturity to engage with certain kinds of material. Jerome Bruner effectively challenged this sort of expectation when he published The process of education in 1960:

‘We begin with the hypothesis that any subject can be taught effectively in some intellectually honest form to any child at any stage of development...’(Bruner, 1960:33)

This hypothesis also underpinned the idea of the spiral curriculum –

‘A curriculum as it develops should revisit these basic ideas repeatedly, building upon them until the student has grasped the full formal apparatus that goes with them.’ (ibid: 13).

The concept of a spiral curriculum has more recently been applied in frameworks such as that in Hong Kong (Morris, P., 1996) and is being revisited by Oates and other members of the expert team reviewing the English curriculum (Oates, 2010)
seeking more possibilities for depth of study and understanding in English education.

**Differentiation**

The principle of differentiation is perhaps more (or even more) problematic. It rests on the expectation that the curriculum will cater for the different needs of different children: some of whom will learn faster than others; some will come from different cultural and linguistic backgrounds than others; some will have different educational and life aspirations from others. An OECD report suggests that:

> ‘A useful starting point for re-evaluating the curriculum is the quest for opportunities for all, with the further implication of differentiation according to the abilities of each student … to ensure that all students can experience programmes that meet their talents and interests.’ (CERI, 1998:8)

While most curricula acknowledge the need to reflect some of this diversity, there is considerable debate internationally around the extent to which, nevertheless, a common curriculum (sometimes referred to as a ‘curriculum entitlement’) is maintained for all children and to what extent and at what stage children are diverted into different educational channels determined perhaps on the basis of an assessment of academic ability, or perhaps on the basis of an assessment of their own interests and priorities. The German tri-partite system with its early separation of students into Gymnasium, Realschule and Hauptschule stands on one wing of the spectrum of practice; perhaps the American High School system and (until recently anyway) the English comprehensive school stand at another.

Kazakhstan has already interpreted and applied the principle of differentiation with the creation of the NIS designed to serve the particular needs of an intellectual elite, though there remain questions about the degree or forms of differentiation – e.g. in terms of subject specialism – which may be allowed within this selective system. Perhaps for current purposes we need to concentrate on the curriculum for the Nazarbayev Intellectual Schools, but the principle of differentiation might warn us against the assumption that this same curriculum can be transferred across the whole system without careful thought.

### Questions

- Are these principles –Coherence, Continuity, Progression and Differentiation – in general, design principles that we want to adopt in developing the new curriculum? If so how shall we ensure that they are indeed incorporated in its development?
- How, in particular, shall we interpret the principle of ‘differentiation’? What differences do we want to see reflected in the curriculum?
6. Breadth, depth and balance as curriculum design principles

One of the key questions which those developing the curriculum have to address is to do with the interconnected principles of breadth and balance. As we have seen, educational aims often include reference to ‘a balanced education’ or ‘the education of the whole person’.

In curriculum terms these aims get translated into a number of operational principles such as the following:

- Seeking to ensure that even in the primary school the curriculum does not become too narrowly focussed merely on ‘basic skills’.
- Maintaining a relatively wide ranging curriculum even to the final stages of secondary schooling.
- Ensuring that particular balances are struck between, for example, arts, humanities and sciences or between mental, emotional and physical development, or as Pring and Pollard have argued in their review of curriculum reviews: ‘A wider vision of education should respect and reward the practical as well as the academic, informal and experiential as well as formal learning.’ (Pring and Pollard, 2011:8)

Of course, even within a broad acceptance of such principles there are difficult issues to be resolved – especially if the curriculum is not to be grossly overcrowded. Schools might agree that ‘science’ should be part of the balance, but does this mean that biology, physics and chemistry have also to be part of the balance within science – and if these are all there on a sufficient scale to be treated seriously, are they not going to encroach on the timetable time required for other subjects? And if creative arts are part of the balance or the education of the whole person, does this mean that we have to provide space for music and visual arts and dance and drama? And exactly how many languages can we realistically hope to include? Thus what starts off as an apparently helpful curriculum principle rapidly becomes one that poses at least as many questions as it answers.

The principles of breadth and balance are also challenged from other directions. In England, for example, some university departments are complaining that as a result of a shift from a very narrow 3 subject focus in the last two years of schooling to a broader curriculum in which students will typically study 5 or 6 subjects for at least some of this period, the students they receive into higher education are inadequately prepared for their highly specialised undergraduate studies. Arguably, if you want the most advanced students in mathematics, for example, then the earlier they can specialise the better, though of course if you want people who are not only highly competent mathematicians but ‘rounded persons’ you might be happy to accept this cost. It is worth noticing however that evidence from countries that perform well on such international tables as TIPPS indicates that

‘…Curricular materials in high-performing nations focus on fewer topics, but also communicate the expectation that those topics will be taught in a deeper, more profound way…’. (Schmidt, W. and Prawat, R., 2006, p.1)
Finally, there is a counter argument which comes from an attachment to a student-centred curriculum and which points to the desirability of students being able to shape their own studies increasingly by reference to what really interests them, even if this ends up with a very one-sided programme of study. In many settings this principle is honoured (at least in part) by allowing students a measure of choice – options or electives – from within a certain framework of studies (another example of the application of the tight/loose principle). Some systems allow a degree of specialisation after typically grade 10, for example, towards the sciences or towards the humanities, even if they also insist on maintaining minority subjects in the interests of overall balance or roundedness.

The Nazarbayev Intellectual Schools have quite a difficult balancing act to achieve. The initial Development Strategy calls for ‘a broad education’ but it also has the intention that:

‘All the schools that are established within the NIS group will have a Maths/Physics or Chemistry/Biology specialism’ and that more time will be devoted to these subjects in the school curriculum and students will be required to study these subjects at greater depth.’ (Flip Consultants, 2010:4)

Given that this requirement sits alongside a commitment to three languages (Kazakh, Russian and English) there will be tough decisions to be made as to what is left out of the curriculum.

So among the key decisions for the Nazarbayev Intellectual Schools are:

Questions

- With respect to primary education: what range of subjects do the schools wish to introduce when – alongside or incorporating the development of basic skills such as reading writing, arithmetic and IT competence?
- With respect to junior secondary education: what range of subjects do the schools wish to maintain as part of the compulsory curriculum and what choices or electives will they allow within this framework or alongside it?
- With respect to senior secondary: how will the schools manage the requirements for: (i) a broad curriculum, (ii) specialisation in two areas of Maths/Science, (iii) three languages, (iv) skills including ‘life skills’?
7. The organisation of knowledge in the school curriculum

‘traditional subjects… have become so familiar for so many generations that they might tend to seem more like works of nature than of humanity’ (Walker, 1990:15)

‘The idea that a good schooling revolves only round traditional subjects has been around for some three hundred years and may now be due for retirement.’ (White, 2007:46)

‘Subjects offer one way, though again not the only way, of translating what is to be learned and taught into a curriculum which is manageable on a day-to-day basis’ (Alexander, 2010: 254)

This report has slipped easily into the language of ‘school subjects’ and to some extent presupposes that such subjects will indeed provide the basic building blocks for the design and description of the school curriculum. It is after all almost universal practice to describe a curriculum in terms such as mathematics, science (or biology, chemistry, physics), history, geography, music, art, physical education, language(s), literature – and perhaps at more advanced levels, economics, philosophy, psychology, sociology, and in some cases religious studies. The Alberta (Canada) curriculum, for example, lists the following subjects (‘subject areas’ is the term that has gained widespread use) to be taken at grade 4:

- Required Subject Areas
  - English Language Arts
  - Mathematics
  - Science
  - Social Studies
  - Physical Education
  - Health and Life Skills
  - Art and Music
- Optional Subject Areas
  - Drama
  - Languages’

(Government of Alberta, 2011)

One problem is that there is an almost infinite list of such ‘subjects’ or categories of knowledge. There are several different responses to reducing such a long list of possible subjects to manageable proportions.

One response is to omit some potential subjects entirely: some may be omitted on ideological grounds (e.g. Religious Education); some because they are seen as more appropriate to a higher level of education (e.g. law, economics or philosophy1); some because they are seen as sufficiently closely represented by a subject area which is included (so e.g. dance may be omitted in favour of music or biology in favour of chemistry). Another response is to cluster certain subjects in groups or

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1 Though, interestingly in a context in which increasing attention is being paid to critical thinking Philosophy for Children is attracting considerable international attention.
‘curriculum areas’ as the Scottish curriculum refers to them, so that the curriculum principle becomes that each of these groups of subjects needs to be represented even if not all its sub-components are visibly present. For example, Alberta (above) brings aspects of history, geography and other material together in ‘social studies’; Mongolia brings certain aspects of science and geography together in the primary school as ‘people and environment’. The Rose review of primary education in England suggested a curriculum based on six ‘areas of learning’:

- Understanding English, communication and languages
- Mathematical understanding
- Scientific and technological understanding
- Historical, geographical and social understanding
- Understanding physical development, health and wellbeing
- Understanding the arts.

(Rose, 2008, paragraph 31)

The reformed Hong Kong curriculum identifies seven ‘key learning areas’:

- Chinese language
- English language
- Mathematics
- Personal, social and humanities education
- Science
- Technology
- Arts
- PE

(Curriculum Development Institute, 2006 – see Appendix D)

The Cambridge Review of Primary Education describes its proposed curriculum in terms of eight ‘domains of knowledge, skill, disposition and enquiry’ each of which has, among other things, ‘thematic and/or epistemological coherence and integrity’ and ‘an identifiable and essential core of knowledge and skill which is contingent upon certain dispositions and modes of exploration and enquiry’ (Alexander, 2010: 265). These are:

- ‘Arts and creativity
- Citizenship and ethics
- Faith and belief
- Language, oracy and literacy
- Mathematics
- Physical and emotional health
- Place and time
- Science and technology’

Though the report does immediately emphasise that these do not necessarily appear as the names of slots in the curriculum.

Some subjects have more stable and enduring character than others. This may be partly because they have greater internal logical coherence of the kind the Cambridge review refers to – they really do mark some significant differences in terms of their central or ‘categorical’ concepts, their modes of enquiry and their modes of distinguishing beliefs deserving of confidence from those which are not. Science, mathematics and history, for example, have all of these distinctive and distinguishing qualities notwithstanding their dependencies. It is no doubt partly, too,
because they have more fully evolved and clearly identifiable organisational structures, literatures etc supported by undergraduate and postgraduate educational programmes in higher education and the allegiances of powerful 'academic tribes' (Becher, 1989) or, as Goodson presents it 'the major vested interests' and 'legitimising institutions' within education and the broader society (Goodson, 1993:198). Nevertheless all of what we currently recognise as 'subjects' have evolved and continue to do so. As far as the school curriculum is concerned the subjects always represent a particular selection from and collection of material from a broad area of human enquiry – and these selections are not the same the world over (which among other things makes something of a nonsense of league tables of performance based on any particular test).

A school curriculum which attempts to work independently of or outside these organisational structures can face some challenging problems. Even when, in the 1970s in the UK for example, primary schools in particular moved towards a more topic based or 'integrated' curriculum (along with 'the integrated day' and 'the integrated classroom'), they still went to some lengths to ensure coverage of curriculum requirements conceived of in fairly traditional terms (see Bridges, 2002). Though higher education is itself in flux internationally, and though part of this flux is in the form of the deconstruction of traditional subject or disciplinary categories in favour of multi-disciplinary, inter-disciplinary and even post disciplinary sites of learning (Smith and Webster, 1997; Bridges and McLaughlin, 2007), there is still a need in schools and in universities to provide some organisational categories through which to divide up responsibility for the curriculum, structure learning, appoint appropriately qualified teachers and identify commonalities with other institutions. Even in Singapore, which has gone further than most in foregrounding a skills-focussed curriculum (see Appendices A, B and C), the primary organisational units in schools are still subjects. Similarly, the innovative curriculum of the Royal Society of Arts (see section 8 below) is focussed on key competences, but this is not entirely at the expense of subject based knowledge: ‘A competence based approach enables students not just to acquire subject knowledge’ (Royal Society of Arts 2011 – my emphasis).

There are practical reasons, then, to retain ‘subjects’ as one point of reference in thinking about the curriculum, but this is not the end of the argument. The following key points need also to be observed in the development of such a curriculum:

The boundaries between any selection of school subjects are not watertight. There are all sorts of interconnections and inter-dependencies – and these need to be acknowledged, understood and explored. The Scottish Government, for example, acknowledges the significance of subjects (or what it calls ‘curriculum areas’) but requires schools also to engage with the interdisciplinary character of knowledge.

‘Young people need to understand something of the different ways of knowing about the world that are embedded in the different curriculum areas. But they also need to appreciate that all knowledge is connected. Interdisciplinary learning is thus an essential element in the education of every young person at every stage. Indeed, synthesis – the capacity to draw together ideas and skills from different areas of expertise – is one of the most important higher order capabilities of the 21st century’ (The Scottish Government, 2010:3).

The design and delivery of a curriculum organised in subject terms (whatever the subjects) needs to recognise these different elements of cross curricularity and
develop teaching approaches which reinforce learning through the effective exploitation of these relationships (see above on the design principle of coherence). This means among other things that teachers need to be aware of what is being taught not just in their own subject area but across the curriculum and to work collaboratively to exploit the benefits of these connections and to reinforce learning – and as far as possible this kind of cross referencing needs to be built into the curriculum design.

Further, we know that both intellectual and practical problems do not necessarily present themselves tidily within the bounds of a single subject area. The Rose Review of the primary curriculum in England observed that:

‘There are times when it is right to marshal content from different subjects into well-planned, cross-curricular studies. This is not only because it helps children to better understand ideas about such important matters as citizenship, sustainable development, financial capability and health and wellbeing, but also because it provides opportunities across the curriculum for them to use and apply what they have learned from the discrete teaching of subjects’. (Rose, 2008, par 25)

So we have to ask how we provide space for students to learn what it is like to bring their learning to bear on both theoretical and practical problems – through, for example, topic based or problem focussed discussions, assignments or projects of one kind or another\(^2\). For some this requires a radical challenge to the subject based curriculum and its substitution by:

‘the organisation of the curriculum around significant problems and issues, collaboratively identified by educators and young people, without regard for the subject boundaries. In curriculum integration, organising themes are drawn from life as it is being lived and experienced. By using such themes, the way is opened for young people to enquire critically into real issues and to pursue social action where they see the need.’ (Beale, 1999:xi)

Is this what Kazakhstan might aspire to for its Intellectual Schools?

A different kind of challenge to the traditional subject based curriculum has arisen as international policy and practice has moved towards describing the sort of learning that curriculum designers want to take place in terms of skills and competence(s) like ‘critical thinking’ or ‘communication skills’, which do not lie straightforwardly under the old subject categories – hence the quotation from White with which I introduced this section. The next section will explore the argument around skills in the curriculum and the expression of curriculum content in terms of skills or ‘competences’.

\(^2\) An excellent example of such applied interdisciplinary engagement with real problems in the community is provided by the OECD/CERI work on education and the environment (eg CERI/OECD 1991). The aim of this initiative was ‘to promote environmental awareness by enabling students themselves to use their initiative and enterprise in identifying issues, designing investigations, collecting and analysing relevant information, developing their solutions and reporting their work to the community’ (CERI/OECD 1998:15). Inevitably of course this kind of programme took students across many subject boundaries, but did so purposefully in a way necessitated by the requirements of the task.
Questions

- What term do we want to use to refer to the grouping of knowledge in the curriculum? Subjects? Areas? Etc?
- What place will there be in the curriculum for forms of enquiry or study which cuts across these categories – for cross curricular themes or problem based learning?
8. Skills in the curriculum

As we have noted above, if we organise the curriculum around traditional academic subjects (like science, maths, history, music, Russian, etc) we risk ignoring the fact that there are lots of elements of learning which feature in or have application across more than one subject area. These include certain kinds of learning which are often referred to as skills.

The focus in contemporary curriculum discussion on skills is partly the result of a new emphasis on not just what students know (in particular 'knowing that' something is the case) but also on what they can do – ‘knowing how’ and ‘being able…’.

It is dangerous to treat this distinction between knowing that and knowing how (or skill) as a clear cut one. Any skilled craftsperson knows a lot about the materials they are dealing with, the tools they need to employ, the consequences of treating tools and materials in this way or that, the relation of their craft to social or aesthetic considerations affecting its employment, etc. No ‘skill’ is entirely empty of cognitive content – and some (e.g. those undertaken by the skilled surgeon?) require an awful lot. Different kinds of skills draw in different ways on both cognitive content (knowledge and understanding) and other personal qualities such as a sympathetic imagination or, for example, in the case of critical thinking a certain level of self confidence. Compare, for example, riding a bicycle, kicking a ball, multiplying fractions, reading a text, solving a problem in a lighting circuit, teaching a class of children to read, maintaining a patient on a life support machine, flying a commercial aircraft, negotiating a settlement in an industrial dispute. Are all these ‘skills’ (they are often presented as such)? And if they are, does the distinction between knowledge and skill really mean very much?

The discourse of skills serves, nevertheless, to point towards things that people can do; things which require the individual to turn belief into action (hence my emphasis on self belief and self confidence); things perhaps that require practice; things in which perhaps people can be trained and coached.

Many components of the curriculum can be described in these terms. In the primary school we are familiar with: notions of basic skills (including reading, writing and certain forms of numeracy – and typically today a level of IT competence); the role of the school in teaching social and interpersonal skills (e.g. learning to wait one’s turn to speak, resolving disputes without recourse to violence, learning behaviours required for the orderly movement of large numbers of children around the school); and practical skills (like using scissors, simple construction tasks, developing psycho motor skills through sport or dance).

At later primary and secondary level these become more sophisticated:

- We learn not just how to decode the symbols in text but to decode the meaning or significance of what the text has to say, to relate it to its authorial or cultural source, to compare it with another text, etc. The UNESCO Mid Term Assessment of Education for All in Kazakhstan emphasises the need not just for literacy but for ‘functional literacy’ and urges that ‘a special place in educational programmes should be taken by a so-called activity-based literacy: the ability to set and modify tasks and objectives of one’s own activities, to make decisions, to ensure communication, to act in an uncertain situation, etc.’ (UNESCO, 2008:108).
• We learn not just the basics of mathematical computation, but to use numbers and other symbols to construct elaborate models of functions in the natural world or to solve teasing problems which are internal to the language of mathematics itself.
• We learn not just how to manage the mechanics of writing legibly but the art of writing for particular purposes and in particular genres (the essay, the poem, the scientific report) and how to do so lucidly, elegantly, persuasively.
• We learn not only how to observe orderly patterns of conversation but how to engage in discussion with a view to developing one’s understanding, building a consensus, arriving at a decision or persuading others of the rightness of one’s own opinion.

The Singapore curriculum is one which gives significant attention to skills, albeit within a subject based curriculum. The Singapore Desired Outcomes of Education (DOE) articulate the importance of holistically nurturing students to become well-rounded persons—morally, intellectually, physically, socially and aesthetically. This aim gets translated into a set of eight core skills and values.

1. Character Development
2. Self Management Skills
3. Social and Cooperative Skills
4. Literacy and Numeracy
5. Communication Skills
6. Information Skills
7. Thinking Skills and Creativity
8. Knowledge Application Skills

Hodge (undated:1)

The reformed Hong Kong curriculum is presented as a complex matrix of requirements which includes (among other things) ‘Key areas of learning’ (i.e. subjects) on one dimension and ‘generic skills’ on another. Those teaching the ‘key areas of learning’ are required also to promote the development of the following generic skills:

• communication skills
• critical thinking
• creativity
• information technology skills
• numeracy
• problem solving skills
• self-management skills
• study skills
(Curriculum Development Institute, 2006)

In the UK a non-government organisation, the Royal Society of Arts, has developed a radical alternative curriculum through its Opening Minds project. The RSA explains:

‘RSA Opening Minds promotes innovative and integrated ways of thinking about education and the curriculum. Teachers design and develop a curriculum for their own schools based round the development of five key
competences:
1. Citizenship
2. Learning
3. Managing Information
4. Relating to people
5. Managing Situations

‘A competence based approach enables students not just to acquire
subject knowledge but to understand, use and apply it within the context
of their wider learning and life. It also offers students a more holistic and
coherent way of learning which allows them to make connections and
apply knowledge across different subject areas.’ (Royal Society of Arts,
2011)

Clearly one way in which to describe curriculum content is in terms of such skills or
competences – and it is arguable that by insisting on these sort of descriptors of
what students will learn to do, the curriculum will force upon teachers and students a
more dynamic approach to teaching and learning. It will not be enough for students
to listen and repeat what they hear: they will have to practise and demonstrate what
they can do. The Scottish Government makes this sort of case for the emphasis
which it places in its curriculum on ‘experiences and outcomes’ which are

‘clearly focused as much on what the young person should be able to do as on
what he/she should know. This is not to imply that knowledge is viewed as
being of reduced importance but rather that inert information is of little value’
(Scottish Government)

We return in this way to the idea of a curriculum expressed in terms of students’
competence. The UNESCO Education for All Mid Term Assessment of Kazakhstan
observes precisely this connection between a curriculum which gives prominence to
skills and one that is expressed in terms of competence(s):

‘the Republic has adopted a State mandatory standard of a 12-year secondary
general education, one of conceptual basics of which is assessment of
academic achievements, based on the students acquiring key competencies.
Despite lack of the notion of “life skills” in the new standard terminology, the
competence-based approach, applied in the document to describe educational
outcomes, suggests formation and development of both general and applied
discipline skills and life skills in the learning process’ (UNESCO, 2008:99).

Clearly one option for Kazakhstan is to develop a skill- or competence-based
approach to its curriculum. This direction of thought is indicated in the initial
Development Strategy for the Intellectual Schools, which seeks a system which
provides:

‘… the development of a person who has the skills of enquiry, problem solving,
critical thinking, communication and is highly adaptable and tenacious’ and
then: ‘students with skills to work across cultures…’ (cited in Flip Consultants,
2010:4)

Kazakhstan can be more or less radical in such an approach and the way it is
decided to relate it to a subject based curriculum. For example:
- The radical approach: Determine what skills/competences Kazakhstan seeks to develop and structure the curriculum around these – only drawing on traditional subject knowledge where and in so far as it supports these objectives.

- The moderate approach: Develop a matrix curriculum (cf the Hong Kong example) with two dimensions – subjects on one axis and skills/competences on the other. The school timetable might still be based on a subject structure but teaching would have to cover the skills/competences and be changed to ensure that these received sufficient attention and (most importantly) these would form part of the assessment.

- The conservative approach: the curriculum is firmly based on subject categories, but curriculum developers identify and highlight the skills/competences that these already promote.

These alternatives clearly carry very different consequences for the content and orientation of the curriculum, for assessment and, perhaps most fundamentally, for the skills that teachers will need to bring to the task.

**Question**

- How prominently do we want to feature skills in the curriculum or indeed to describe the curriculum in terms of skills?
- What skills (or clusters of skills) do we want to feature?
- How do we want to express the relationship between skills and subjects? (As a matrix?)
9. Language policy and the curriculum

Two of the key and perhaps controversial issues for Nazarbayev Intellectual Schools are to do with: (i) what language will be the medium of instruction in schools at different stages?; and (ii) what other languages will be taught at what stages?

As this review has already indicated, clarity about the aims of the NIS will go some way towards indicating an answer to these questions. The following points may provide a starting point for this consideration.

If the ambition of the Nazarbayev Intellectual Schools is that their students should have the possibility of studying in international universities outside Kazakhstan on the basis of the qualifications gained through the new curriculum, then it is fairly clear from the experience of other international students that they need to have worked in that international language as the medium of instruction at least through their period of secondary schooling. Hence they will need to have achieved a high level of competence in that language in their primary school. If the international universities to which Kazakh students want access are in the Russian speaking world, then clearly this is relatively easily achieved by students whose first language is Russian or others accustomed to regular use of the language. However, if they wish to access directly from the NIS system universities in the English speaking world (which is clearly the main focus of the Bolashak programme under which over a third of Kazakh students go to study in the USA and nearly one third to the UK) then they will need the level of English language competence that experience of the language as a medium of instruction can bring. This is all the more important given that students will, on the whole, have very little reinforcement of the language outside the classroom. There is a finer judgement to be made, perhaps, as to whether, for this purpose, it needs to be the only medium of instruction or whether it will prove sufficient for it to be used across some but not all of the curriculum.

The question of which of the languages used in Kazakhstan (and their literature and other forms of cultural expression) should be taught and developed in the NIS system is inevitably going to be answered primarily by reference to wider national policy about the place which different languages will have in the future of Kazakhstan – including the extent to which this will vary to reflect regional and local differences or even parents’ and students’ preferences. It is a question about the sort of community Kazakhstan seeks to develop and the capacities which it seeks in its future citizens.

However, Kazakhstan clearly looks beyond its own borders in thinking about its educational (including it language) requirements. In the Annual Message of the President *New Kazakhstan in the new world* (February, 2007), President Naraibayev himself declared that:

*The main criterion of success of educational reform is to achieve such a level when any citizen of our country, having received appropriate education and qualification, can become a demanded specialist in any country of the world* (quoted in UNESCO, 2008:14).

There is an additional consideration, however, of a very practical nature and with direct consequences for the curriculum. Clearly you could make a good case for teaching at least one foreign language and two (or even more) national languages in
Nazarbayev Intellectual Schools. The Unified National Testing system introduced into Kazakhstan in 2004 provides for an upper secondary curriculum which includes: Kazakh, Russian, Mathematics, History of Kazakhstan and then one option chosen in relation to the student’s intended specialisation in university. If English is added to this curriculum, then something else has to go, or several things have to be reduced. How much of the curriculum is the system willing to dedicate to language learning – and at the expense of what other claims on the time?

Questions

- What will be the language of instruction at each stage of education (and will it be the same across all subjects)?
- What other languages will be learned at each stage?
- What proportion of the curriculum will be devoted to language learning at each stage?
10. Educational values (again), aims and pedagogic principles

We have seen how educational values get expressed as aims and how aims may get translated into more specific objectives (behavioural or otherwise) or programmes of activity. But this is not the only route by which educational values and aims get reflected in the curriculum, properly understood: they are also expressed in the form of the principles (Peters, 1959 and Stenhouse, 1975 referred to them as ‘procedural principles’) which will inform pedagogy and learning.

Central among the concerns of many educational reform movements across the world are concerns not so much about the scope or content of the curriculum but about how it is taught and what kind of learning takes place (granted that this is something of a false dichotomy). So, for example, educators and politicians (including NIS) are concerned to encourage: more active and interactive learning; more emphasis on understanding (and not just rote learning); more creative and critical thinking; more independent inquiry; more group work and collaborative learning, etc etc..

Learning to learn in these ways and the learning which issues from these practices is as much part of the curriculum as any prescription of the subject content – and deserve to be recognised as such. They are an important part of the expression of the educational values and aims. They apply as it were adverbially (indicating how teaching and learning should be carried out) rather than to describe substantive content or outcomes. Stenhouse referred to a curriculum which gives prominence to pedagogic processes over, for example, the specification of subject content as ‘a process model’ of curriculum (Stenhouse, 1975:96). Though most modern curriculum specifications make requirements on content as well as process, they also reveal increasing attention to the kinds of teaching and learning that should take place.

The Cambridge Curriculum, for example, emphasises its approach to learning in the following terms:

‘Each curriculum framework for English, mathematics and science is designed to engage learners in an active and creative learning journey.’ (University of Cambridge International examinations (2010:1)

The Finnish national curriculum document makes it clear that ‘The teacher selects the working approaches’ but then immediately sets out in some detail the expectation which should govern that selection:

‘Working approaches are chosen because they:
- Excite a desire to learn
- Take the process and purposeful nature of learning into account
- Motivate the pupils to work purposefully
- Further the formation of an organised knowledge structure, the learning of skills and practice in those skills
- Develop skills for acquiring, applying and evaluating information
- Support learning that occurs through interaction among the pupils
- Promote social flexibility, an ability to function in constructive cooperation, and the assumption of responsibility for others
- Develop capacity for taking responsibility for one’s own learning, for evaluating that learning and for seeking feedback for purposes of reflecting on one’s own actions.’

(Finnish National Board of Education, 2004:17)

Questions

- To what extent are particular modes of teaching and learning crucial for the realisation of its central educational aims and values?
- To what extent do these need to be spelled out as part of the curriculum framework?
11. What is the right balance between a centrally defined and locally developed curriculum?

It may be helpful for NIS to think in terms of a tight/loose continuum, i.e. to think in terms of what features are centrally prescribed and what features may be left to local interpretation or discretion. This approach to curriculum is illustrated in a principle enunciated by Pring and Pollard:

‘A curriculum entitlement framework should be designed to introduce young people to subjects and to broad domains of knowledge, to practical capabilities and skills, to a sense of achievement, to the “big issues” which confront society and to the knowledge and dispositions of active citizenship, yet be flexible enough for teachers to adapt appropriately’. (Pring and Pollard, 2011:7, my speech marks)

White argues similarly for a division of labour between central government and teachers:

‘The role of government is to map out the larger contours of a national curriculum – its over all aims, underlying values, broad framework of requirements. It should leave more detailed content and implementation to teachers. There are a thousand and one ways of interpreting and realising a broad national scheme and professionals are the best people to do this’. (White, 2007:15)

The balance of responsibility has been struck in different ways in different countries. This is partly a matter of local political structures, partly a matter of decision within these structures as to where responsibility should lie. Canada, for example, devolves curriculum policy from state to provincial level. But even at this level a decision may be made to devolve responsibility even more locally. The provincial government of Alberta, for example, states in its curriculum documentation that

‘School jurisdictions use the Programs of Study to ensure that students meet provincial standards of achievement. However, they have flexibility to decide how to teach the curriculum and the order in which it is taught.’ (Government of Alberta, 2011)

CERI’s report for the OECD makes some comparisons between different practices with respect to the level of centralised control and specification of the curriculum:

‘Many countries publish their general decisions through a statement of core curriculum. Some, like those for the Flemish community in Belgium and for England and Wales, prescribe content in detail. Some, like that for Norway, offer a set of general principles. Others provide a framework with broad pointers, like the set of attainment targets in the Netherlands, or the aims and content areas in the new Finnish framework and in some German Länder’ (CERI, 1998:13).

The report serves to illustrate the diversity of practice, but, given the changes that have taken place in some of these countries since 1998, it also serves to make the point that this balance between centralised control and local initiative is constantly being renegotiated.
In its recent curriculum reform process, Hong Kong has been very committed to supporting school based curriculum development within and alongside what is prescribed centrally. It defines, as we have seen, ‘key learning areas’ which are required and for which it provides curriculum specifications and it also specifies ‘five essential learning experiences’ (including Moral and civic education, Intellectual development, community service, physical and aesthetic development and career related experience), but it also actively promotes school based curriculum development designed to interpret these requirements locally and to expand the centrally imposed requirements into the actual school curriculum which students will experience.

Singapore has been moving towards a more flexible curriculum. The Minister of Education explains:

‘The national curriculum structures will be loosened through curriculum decentralisation to allow schools to customise their curriculum to meet their students’ needs. Certain subjects can be redesigned as a set of learning outcomes to allow schools room to innovate without having to complete a syllabus. This allows schools greater autonomy and flexibility over curriculum time allocation. More time will be freed up from curriculum for students to develop skills and attitudes. MOE will allow flexibility of integration of subjects to develop new understanding’. (Hodge, undated:2)

Those currently reviewing the English national curriculum are similarly looking to restore more responsibility to schools. They are distinguishing between the national curriculum and the school curriculum and considering whether up to 50% of what is taught in schools might not be locally rather than nationally determined. The person leading the expert panel on the review of the English national curriculum has argued strenuously that:

‘ “The National Curriculum” and “the curriculum” should not be confused – it is vital to distinguish between them. The curriculum – taught and untaught – represents the totality of the experience of the child within schooling (aims, content, pedagogy, assessment). It includes unassessed and uncertificated elements – including opportunities to acquire vital “personal” and ”social” capitals. A national curriculum cannot specify and control all elements of the “real” curriculum – and will run into terrible difficulty if it attempts so to do. A national curriculum operates as a means of giving all pupils access to a common body of essential content. It is vital to distinguish the role of national curricula in specifying conceptual and factual content, and the role of teachers in developing motivating teaching and learning.’ (Oates, 2010:9-10)

The issue is not just one of devolution to local communities. There is additionally the question of the extent to which teachers in the classroom should be constrained by external requirements or free to make their own curricular decisions. Until the 1980s and the introduction of a national curriculum in England teachers had remarkable independence, even the capacity to develop innovative examinations to meet the requirements of the curriculum they had developed.

In contemporary Finland the government is committed to a significant level of local delegation, but requires teachers to conform to the curriculum which has been locally determined:
‘The national core curriculum is the national framework on the basis of which the local curriculum is formulated. The education provider takes responsibility for the preparation and development of the local curriculum. In the local curriculum, decisions are made regarding the educational and teaching task of basic education and the objectives and contents specified in the national curriculum, as well as other factors bearing on the provision of education…. The teacher has to adhere to the curriculum approved by the local provider.’
(Finnish National Board of Education, (2004:8)

To some extent the question is one of the level of trust which the system is able to place in the professionalism of teachers and local communities: it is also partly a matter of wanting to engage the creativity and enthusiasm of teachers and local communities and to give them a sense of ownership of what is taught. But it is also a matter of recognising that the commitment of teachers is an indispensable condition for the realisation of any educational aims. There is no ‘teacher proof curriculum’, i.e. a curriculum that can be designed with such precision and managed in such detail that it can as it were bypass the interpretive, disruptive and even subversive power of the teacher. So whatever aspirations get incorporated in the curriculum, they have to be ones which teachers feel willing and able to translate into classroom experience. ‘The curriculum’ said Lawrence Stenhouse, ‘is a hypothesis which can only be tested in the classroom’.

There are, nevertheless, certain strategic features of the curriculum – indicated by the discussions above -- that need to be decided at a system level, because they have such far-reaching consequences for the system as a whole. These include:

(i) The orientation and overall purposes of the curriculum as expressed in its aims and values.
(ii) The issue of breadth versus concentration of the curriculum at different stages.
(iii) The organisation of the curriculum – the ‘packaging’ of the knowledge content in the forms of subjects or otherwise.
(iv) The emphasis that is to be placed on skills and the identification of the main skills that are required.
(v) Policy with respect to the language of instruction and other languages to be learned.

A national strategy and curriculum framework based on policy with respect to these issues is especially important if: (i) initial teacher education and any centralised provision of in-service education is to be aligned with the requirements of the curriculum; and (ii) students whose families are increasingly geographically mobile are not to face inconsistencies and disruption in their studies when they move from one part of the country to another.

Is the NIS system looking for a common curriculum which runs across all its schools, or is there scope for divergence, creativity and innovation at school level based on the competence and enthusiasms of the teachers, the interests and enthusiasms of the students and/or the views of parents? What elements of the curriculum will be centrally defined and what elements will be left for local or school based determination?

We might consider too the extent to which we could envisage this balance shifting
over time as schools, local communities and teachers gain more confidence and competence in curriculum matters.

Questions

- What balance do we want to strike between a centrally defined and locally defined and developed curriculum?
- What areas of discretion do we want to leave to teachers in relation to the curriculum?
12. Narrower and wider notions of the curriculum

‘The curriculum is more than the sum of the courses offered in formal classroom settings. Curriculum for Excellence envisages learning taking place in four contexts. Two of these – curriculum areas and subjects, and interdisciplinary studies – relate to the provision of courses of study in school. However, the school is also pupils’ place of work and usually plays an important part in their social lives. Their experience of the school community and the contribution they make to it thus form an important part of their learning. The final context lies in the outside world and the opportunities it offers for wider achievement’. (The Scottish Government, 2010:2)

We have focussed here on the school curriculum, and the process we shall be going through will have as its central outcome a systematic and structured description of what we want students in the NIS system to learn and/or what we want teachers to teach.

The relationship between what teachers teach (or intend to teach) and what students learn is, however, not straightforward, and we need to be alert to at least the following considerations

(i) The written description of, for example, course content (to take a fairly restricted view of the curriculum) is only one among the drivers of what teachers teach and what students learn.

We are focussing in this first stage of our work on a written description of course content and what we want students to learn. This is ‘the curriculum’ narrowly defined. But what teachers teach and what students learn are perhaps even more powerfully defined by or expressed through examinations and assessment – especially where teachers or schools are evaluated by reference to their students’ performance in such assessments. Notoriously, teachers will teach to the test and students focus their own learning on whatever is needed to pass the exams. So an absolutely basic principle of curriculum design is to ensure consistency between the aims and educational values expressed in the curriculum (narrowly conceived) and those expressed through the examinations and assessment (and the curriculum thus determined). Similarly, teachers’ guides and school textbooks form a major point of reference for teachers and can play a major part in shaping the curriculum as students themselves experience it. Again, the design principle is that one must ensure consistency between the educational aims and values which frame the curriculum and the messages communicated to teachers and pupils through these guides and texts.

(ii) What students learn in and from their schools extends far beyond what teachers teach in classroom, ie from curriculum in the restricted sense of the course content.

Students learn from the behaviour that teachers model in their relations with students and with each other; they learn from the social organisation of the classroom and the school – from the structures of authority which are maintained; from differences in the treatment of people of different gender or ethnicity or language communities;
from the courtesy and consideration which the school displays in its attitudes towards people and the regimes of courtesy and consideration which it requires of its students; from the manner in which the school deals with breaches of discipline or consideration for others; from the balance which it strikes between cooperation and competitiveness in the classroom and outside it; from the ‘extra-curricular’ activities which it provides or fails to provide; from the warmth or otherwise of its relations with parents and the local community.

The Finnish government clearly recognises this wider notion of the school curriculum in its curriculum framework document (Finnish National Board of Education, 2004) and refers to it as the ‘operational culture’ of the school:

‘A school’s operational culture has a significant impact on education and instruction at the school and thus on learning… The operational culture embraces all of the school’s official and unofficial rules and operational and behavioural models, as well as values, principles and criteria on which the quality of the schoolwork is founded. It also encompasses extracurricular school activities such as celebrations, theme days and various events. The school’s values, educational objectives and cross curricular themes must assume concrete form in the organisational culture.’ (Finnish National Board of Education, 2004:17)

To take a particular example: the Nazarbayev Intellectual Schools are keen to promote critical thinking, and Cambridge is already working with Kazakh teachers to support the development of critical thinking skills. But the development of criticality in students is not just about developing skills. It requires a cultural change in attitudes towards the authority of text and indeed the epistemic authority of the teacher. It requires students to develop new confidence in their own judgement and their capacity to develop a point of view which is worthy of respect and which receives respect in the educational setting. It requires them to look at the evidence before them in order to arrive at an opinion rather than looking to the authority of the teacher. It requires them to question the teacher’s opinion and not just deferentially to ask questions. And such a cultural change requires significant and difficult changes in the relations between teachers and those who are taught in the whole school setting.

A school’s educational aims, purposes and values are arguably as importantly realised or undermined by such characteristics of the organisational culture as by what is contained in the course descriptions, so this wider context of learning can also lay claim to be part of the school curriculum. NIS may wish to include in their consideration of the new curriculum how these organisational and cultural aspects of schooling need to be managed in order to support rather than undermine the curriculum goals that they set for their schools.

(iii) What students learn from schools is only a small part of their total learning.

Most pupils achieve one of the most complex learning tasks of all – working competence in their first natural language (and in some cases in more than one such language) – unaided by the institution of schooling. They learn a wide range of domestic skills and later work skills through non-formal systems of education, from parents, friends, people in the local community. A generation of children with access to new technologies outside the school environment have found themselves being
called upon by an older generation of teachers to assist in their rather slower development of these same skills. The UNESCO *Education for All Mid Decade Assessment for Kazakhstan* reported that:

‘Study of replies of students and parents, related to skills of critical thinking and handling of information, showed that most information is nowadays obtained from mass media and from peers.’ (UNESCO, 2008:104)

This observation has important implications for thinking about the curriculum of the school. Community based sporting groups may well contribute more to young people’s development of their abilities in a wide range of sporting activities than ever the schools can do. And in countries where religious practices are an important part of the culture, it is the faith communities rather than the schools that provide the main forms of instruction and induction into religious understanding and practice. It is worth taking into account, too, the provision of extra curricular activities. The UNESCO report (above) pointed out that ‘there are about 600 extracurricular institutions, operating in Kazakhstan and covering 11% of children and teenagers’ (UNESCO, 2008:99), though the same report also noted the reduction in the number of such opportunities since the Soviet era and even lower participation rates in rural areas.

Such observations have at least two important consequences for the design of the school curriculum.

First, they are a caution against expecting schools and the school curriculum to teach everything that we might consider it desirable for young people to learn. This can only totally overburden schools with an impossible range of tasks. There is an international literature on the phenomenon of ‘educationalisation’ (see, for example, DePaepe and Smeyers, 2008), which refers primarily to the tendency of governments to seek to label every social and economic problem as an educational one and to load its resolution onto the school curriculum. If teenagers are abusing drugs and alcohol, then this needs to be encountered by drugs and alcohol education; if teenagers are getting pregnant, then it requires new programmes of sex education in schools; if obesity is a growing problem in society, then schools need to teach about healthy eating (and ensure that school catering services provide such healthy eating); if the country’s economy needs more entrepreneurs, then the schools must teach entrepreneurship; if the national sports teams are failing to win international competitions, then the schools should be doing more to develop the sporting champions of tomorrow3. No wonder that the school curriculum becomes overcrowded, schools overburdened and teachers overwhelmed at the range of responsibilities that society seems ready to dump on their shoulders. The problem with curriculum construction is rarely ‘what else can we put in?’ but rather ‘what – out of a wide range of entirely desirable learning – can we possibly afford to leave out?’ And one approach to leaving things out is to consider what other social institutions – families, employers, faith communities, sports clubs, voluntary and community organisations, etc – might possibly be relied upon or encouraged to contribute to the total learning experience of the new generation.

3 We might note in this connection that Kazakhstan’s school curriculum includes compulsory courses in Principles of personal and social safety; the Ethics and psychology of family life; and Traffic safety as well as optional courses in How to be healthy; Prevention of using harmful substances; Problems of AIDS and their prevention; and Moral and sexual education. There is a desire to treat these ‘life skills’ in a more integrated way through the mainstream curriculum.
Secondly, and closely related to this first point, schools can also usefully consider to whom they can look for assistance in achieving the central learning goals that they set for their students. Can parents help to reinforce and extend the learning that goes on in schools? In some countries some of the most impressive gains in, for example, primary age students learning to read have been achieved through partnership working between schools and parents through which parents receive advice and even short programmes of training from schools on how they can help their children to learn at home. If the NIS seek to create an atmosphere of intellectual excitement, perhaps they can engage the support of local artists, writers, scientists and academics – bringing these into the school, but also putting students in touch with opportunities available in the local community. The point is that schools are not – and should not be – alone in the task of educating a new generation. In the terms of an oft quoted saying from Africa: ‘It takes a whole village to bring up a child’.

These considerations may have particular significance in Kazakhstan for students’ language development. We have observed that one of the key decisions for the NIS is what languages to introduce at different stages, both as the medium of instruction and as languages to be learned or developed. Policy and practice on language in schools must clearly be thought through in relation to the language(s) which are being used and developed by students outside school in the family and wider community and indeed in social conversation in the playground. Attempts to introduce a new language of instruction can be impeded by the fact that this language is not used outside the school; but equally the protection and development of other languages may be assisted by the fact that they are in any case the language in daily use.

(iv) What teachers actually teach is not necessarily what they intend to teach or think they are teaching.

‘Curriculum study is concerned with the relationship between two views of the curriculum – as intention and as reality. I believe that our educational realities seldom conform to our educational intentions’. (Stenhouse, 1975:2)

There is always a gap between what is taught and what is learned – and sometimes this gap is very wide indeed. This is partly because teachers do not always realise how what they say or do will be interpreted by their students. For example, in an attempt to open up discussion around a topic, the teacher asks ‘Does everyone agree with that?’ Hoping for some disagreement – but the students interpret the question as an attempt to achieve a consensus, and they stay quiet. (Besides, if you are foolhardy enough to admit that you do not agree the teacher will only make your life difficult by asking you to explain why!) But the gap between teaching and learning is more profound than this. Modern learning theory and practice draws heavily on constructivist psychology to draw attention to the fact that all learners bring with them to the classroom or any other context a whole array of conceptual apparatus, understanding, interests, ambitions and expectations which affect what sense they can and will make of any experience and what they take from it – and this includes any teaching they may receive. Though some of this pre-understanding may be shared in particular communities of learners much of it will be individual. What is learned therefore is as much to do with this pre-understanding, etc as it is to do with the new inputs to that understanding that the teacher may offer.

To return to the language of curriculum, we can see here two sides to the definition of the curriculum: there is the curriculum understood in terms of the learning that the
teacher seeks to achieve (set out, for example, in course descriptions); and there is
the learning that the student actually takes away from the encounter with the
teacher, the revised constructs which now structure his or her future understanding
and experience. Part of the skill of the teacher is in negotiating learning pathways
through what students bring to the classroom towards the learning that has been
determined as educationally desirable, but teachers are never entirely in control of
this process and it requires constant sensitivity to the ways in which students are
making sense of their learning experience and perhaps more systematic enquiry into
the gaps between teaching intentions and learning outcomes. Hence, among other
things, the widespread expansion of the practice of classroom action research
among teachers (see Elliott, 2006 and the many accounts and discussions in the

There are, then, at least five different ways in which we can understand and describe
the curriculum.

(i) As a description of what teachers will set out to teach in schools and/ or what it
is hoped that students will learn.

(ii) As the teaching/learning requirements which are indicated by the examination
and assessment system, by school texts or the teachers’ guides.

(iii) As the actual (intended and unintended) outcomes of the classroom
experience.

(iv) As including, in addition, the learning outcomes of the school’s institutional
structures, practices and culture.

(v) As including, in addition, the learning that takes place through non-formal
systems outside as well as formal systems inside the school.

We shall be focussing, in the first workshop, on the first of these, but the NIS system
will certainly need to give serious attention to the others.
Where do we go from here?

This review is intended as a resource for a workshop to be held in Kazakhstan. This workshop will build on work which has already begun in Kazakhstan on the sort of questions posed here. It will serve to clarify and confirm some of the answers to the questions that have already been determined and to address and arrive at some draft proposals in relation to those that have not.

These answers will provide a strong curriculum framework which will describe:

- The values and aims which will underpin the curriculum, give it direction and provide a reference point for its evaluation.

- A view on the extent to which the whole curriculum will be centrally specified and/or the extent to which schools will have responsibility for the full curriculum as delivered.

- A picture of the broad shape of the (centrally defined) curriculum at different stages of schooling including, probably, the ‘subjects’ (however these will be referred to) which will constitute the building blocks; the skills (in particular the cross curricular and life skills that the curriculum should seek to develop); and the attitudes, behaviours and values that students will be encouraged to develop and respect.

- A more detailed specification within this framework of the extent to which students will be able to make choices at different stages from a menu provided by the schools – ie how much and what will be elective.

- Recommendations on how within a curriculum based upon discrete areas of knowledge (if that is what is decided) students will learn to tackle interdisciplinary problems and thinking which crosses these boundaries

- A statement regarding the forms of teaching and learning which are required by the values and aims which the curriculum is seeking to realise.

- An outline plan for the languages which will be: (i) taught and (ii) used as the medium of instruction at each stage of schooling.

- A statement regarding the kind of organisational culture in the schools which is required by the values and aims which the curriculum is seeking to realise.

- Design features which must be honoured in the next stage of the curriculum development.

Once this sort of framework has been agreed, then those responsible for the design and development of different components of the curriculum – e.g. the subjects to be taught – at different stages of education can begin to describe these components in
ways which are consistent with the underpinning values, aims and other agreed features of the framework.

Beyond this, however, there are further tasks which are critical to the successful implementation of the new curriculum: These include, most importantly:

- Developing a system of examinations and assessment which effectively reinforce the principles and practices which underpin the curriculum.
- Developing school texts and resources for teachers which similarly reinforce these principles and practices.
- Developing in-service training and support to enable teachers already in the school system to adapt to new requirements.
- Realigning initial teacher education programmes to ensure that they provide a proper preparation for the new curriculum.

If there is one truth in educational practice which approximates in certainty to the laws of physics, it is that ‘There is no curriculum development without teacher development’!

There is, however, another less obvious but equally important task, which is to ensure that parents and the wider community understand and are in support of the changes which are taking place. Without such support and understanding the work that teachers are trying to do will be constantly undermined by the suspicion and scepticism of people outside the school, whose support will be critical to the success of the new programme.
References


New York: Teachers College Press.


Curriculum Development Institute (2006) Hong Kong Curriculum Reforms. Powerpoint presentation from CDI/CBE, Hong Kong [See Appendix D]


Appendices

The following appendices are intended to provide fuller illustration of the ways in which other countries have answered some of the questions about curriculum that Kazakhstan is now addressing with respect to the Nazarbayev Intellectual Schools. A huge amount of information about these and other curricula is available on the web – and the reference list (above) provides links to some of these resources.
Appendix A: Singapore: Desired Outcomes of Education (DOE)

The DOE are translated into a set of developmental outcomes for each key stage of our education system. The Key Stage Outcomes spell out what the Education Service aspires to develop in our students through Primary, Secondary, and Post-Secondary education. Each educational level builds upon the previous stages and lays the foundation for subsequent ones. For example, primary school students start by learning to know and love Singapore. In doing so, their belief in Singapore will be strengthened and they will understand what matters to Singapore by secondary school. They will grow to be proud of Singapore and understand our country within the global context at the post-secondary level.

There are eight outcomes at each key stage. Taken together, the Key Stage Outcomes make explicit what we aspire to develop in our young so as to lay the strong foundations for them to thrive and achieve success in life as contributing members of society.

The Key Stage Outcomes of Education

<table>
<thead>
<tr>
<th>At the end of Primary school, pupils should:</th>
<th>At the end of Secondary school, students should:</th>
<th>At the end of Post-Secondary education, students should:</th>
</tr>
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<tbody>
<tr>
<td>be able to distinguish right from wrong</td>
<td>have moral integrity</td>
<td>have moral courage to stand up for what is right</td>
</tr>
<tr>
<td>know their strengths and areas for growth</td>
<td>believe in their abilities and be able to adapt to change</td>
<td>be resilient in the face of adversity</td>
</tr>
<tr>
<td>be able to cooperate, share and care for others</td>
<td>be able to work in teams and show empathy for others</td>
<td>be able to collaborate across cultures and be socially responsible</td>
</tr>
<tr>
<td>have a lively curiosity about things</td>
<td>be creative and have an inquiring mind</td>
<td>be innovative and enterprising</td>
</tr>
<tr>
<td>be able to think for and express themselves confidently</td>
<td>be able to appreciate diverse views and communicate effectively</td>
<td>be able to think critically and communicate persuasively</td>
</tr>
<tr>
<td>take pride in their work</td>
<td>take responsibility for their own learning</td>
<td>be purposeful in pursuit of excellence</td>
</tr>
<tr>
<td>have healthy habits and an awareness of the arts</td>
<td>enjoy physical activities and appreciate the arts</td>
<td>pursue a healthy lifestyle and have an appreciation for aesthetics</td>
</tr>
<tr>
<td>know and love Singapore</td>
<td>believe in Singapore and understand what matters to Singapore</td>
<td>be proud to be Singaporeans and understand Singapore in relation to the world</td>
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Appendix B: Singapore Primary School Curriculum

1. English, Mother Tongue and Mathematics will be taught at the appropriate level according to the ability of the student.
2. Science is taught from P3 onwards.
3. For P1-4, Health Education is not a separate subject but relevant topics are included in the learning of English.
4. Project Work is conducted during curriculum time but is not an exam subject.
Appendix C: Singapore Secondary School Curriculum

1. Project Work is conducted during curriculum time but is not an examination subject.
Appendix E: Hong Kong School Curriculum: by Stages and Subjects
Appendix F: English National Curriculum Aims

The curriculum should enable all young people to become:

- successful learners who enjoy learning, make progress and achieve
- confident individuals who are able to live safe, healthy and fulfilling lives
- responsible citizens who make a positive contribution to society.

Successful learners

- have the essential learning skills of literacy, numeracy and information and communication technology
- are creative, resourceful and able to identify and solve problems
- have enquiring minds and think for themselves to process information, reason, question and evaluate
- communicate well in a range of ways
- understand how they learn and learn from their mistakes
- are able to learn independently and with others
- know about big ideas and events that shape our world
- enjoy learning and are motivated to achieve the best they can now and in the future.

Confident individuals

- have a sense of self-worth and personal identity
- relate well to others and form good relationships
- are self-aware and deal well with their emotions
- have secure values and beliefs and have principles to distinguish right from wrong
- become increasingly independent, are able to take the initiative and organise themselves
- make healthy lifestyle choices
- are physically competent and confident
- take managed risks and stay safe
- recognise their talents and have ambitions
- are willing to try new things and make the most of opportunities
- are open to the excitement and inspiration offered by the natural world and human achievements.

Responsible citizens

- are well prepared for life and work
- are enterprising
- are able to work cooperatively with others
- respect others and act with integrity
• understand their own and others’ cultures and traditions, within the context of British heritage, and
• have a strong sense of their own place in the world
• appreciate the benefits of diversity
• challenge injustice, are committed to human rights and strive to live peaceably with others
• sustain and improve the environment, locally and globally
• take account of the needs of present and future generations in the choices they make
• can change things for the better