

The Framework for the National Curriculum

**A report by the Expert Panel
for the National Curriculum review**

Department for Education
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The Expert Panel would not have been able to complete this report without the extensive international comparative work undertaken by the National Curriculum review team. The team has built up a substantial body of information on other nations' systems – key aspects of which are reported separately.

The Expert Panel is also grateful to all those who gave evidence through the formal Call for Evidence and in the many meetings that panel members held with phase and subject experts and with those involved in parallel Departmental reviews.

To provide a comprehensive report at this stage of the review, Andrew Pollard and Mary James led in capturing, in successive drafts, the key elements of the Expert Panel's deliberations and its collective views. Warwick Sharp and his team of editors at the Department for Education provided close support to produce the final draft.

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Introduction

We believe that the National Curriculum is a critical part of the education system in England, and that it has a key role to play in securing the right of all children and young people to a broad and balanced education. We were, therefore, very pleased when the Secretary of State asked us to support the Department for Education's¹ review of the National Curriculum in England through the exercise of our individual and collective insight and knowledge.

We have supported the review by providing detailed advice on the construction and content of the new National Curriculum. We have set out a proposed framework for the National Curriculum and have advised on the development of an evidence base for the drafting of new Programmes of Study, taking account of the requirements set by high-performing educational jurisdictions² across the world. The Department has also sought and considered the views of teachers, subject communities, academics, employers, higher education institutions and other interested parties.

In line with our remit and terms of reference,³ we have met throughout 2011 and supported the work of the Department's National Curriculum review team in a wide range of ways including:

- reviewing evidence on the curriculum provision of high-performing jurisdictions, as well as reviewing domestic evidence on the strengths and weaknesses of current arrangements;
- advising on source documents⁴ concerning international evidence on curricula for English, mathematics and science prepared by the Department;
- exploring structural issues concerning future curriculum design, including the purpose and form of Programmes of Study and Attainment Targets;
- participating in consultation meetings with subject and sector specialists and other stakeholders;
- evaluating outcomes of the review's Call for Evidence;
- deliberating on the possible range of subjects to be included in the National Curriculum in future;

¹ Department for Education – referenced as 'the Department'.

² Based on recent rounds of the PISA, TIMSS and PIRLS assessments for mathematics, reading and science.

³ DfE, (2011). *Expert Panel: Terms of Reference*. (London: DfE)

<http://www.education.gov.uk/schools/teachingandlearning/curriculum/a0073091/expert-panel-terms-of-reference>

⁴ Documents mapping the content of curricula for English, mathematics and science in high-performing jurisdictions.

- liaising with those leading other relevant reviews, including Dame Clare Tickell and Professor Alison Wolf, in respect of the Early Years Foundation Stage (EYFS)⁵ and vocational education,⁶ and with the Department's review of personal, social, health and economic (PSHE) education;⁷ and
- liaising with Her Majesty's Chief Inspector of Schools, Lord Bew and his panel⁸ and the Teachers' Standards Review⁹ in respect of the interaction between curriculum and inspection, assessment and teacher training frameworks.

Additionally, building on what has been learned from the curricula of high-performing jurisdictions and from engagement with subject experts, Tim Oates helped to produce preliminary documents for primary National Curriculum Programmes of Study.

We have written this report for publication by the Department, thus enabling us to present our thinking to a wider audience. The report itself summarises our thinking on a range of fundamentally important issues, which are crucial to defining an overarching conception of the purposes, shape, size and structure of the curriculum. The report focuses in particular on a number of recommendations, some of which have the potential to result in radical change to the National Curriculum, beyond change to curriculum content. We recognise that this will present challenges to policy-makers, practitioners and stakeholders at many levels of the system. For this reason, we hope that the report will help to generate public discussion and constructive contributions to the Department's review of the National Curriculum over the weeks and months to come. We welcome the new schedule for the review.

We have not been able to be entirely conclusive in all our recommendations, as our intention has only been to state a firm recommendation if it is based soundly on national and international evidence and has practical educational value. Further work is needed on outstanding issues such as transitions between key stages and, in particular, on more detailed consideration of provision for children with learning difficulties, special educational needs and disabilities and/or those regarded as high attainers.

We understand that other reports produced by the Department will be published at the same time as this document. This report is offered as a contribution to the debate alongside these other reports. Early drafts of Programmes of Study for the core subjects of the National Curriculum have also been produced by the review team and these will be shared with a wider audience next year.

National Curriculum Review Expert Panel

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⁵ Tickell, C., (2011). *The Tickell Review – The Early Years: Foundations for Life, Health and Learning*. (London: DfE). <http://www.education.gov.uk/tickellreview>.

⁶ Wolf, A., (2011). *Review of Vocational Education – The Wolf Report*. (London: DfE). <https://www.education.gov.uk/publications/standard/publicationDetail/Page1/DFE-00031-2011>.

⁷ DfE, (2011). *Review of PSHE Education*. (London: DfE). <http://www.education.gov.uk/inthenews/inthenews/a00192561/review-of-pshe-education>.

⁸ Bew, P., (2011). *Independent Review of Key Stage 2 testing, assessment and accountability – Final Report*. (London: DfE). <https://www.education.gov.uk/publications/standard/publicationDetail/Page1/DFE-00068-2011>.

⁹ DfE, (2011). *Review of Teachers' Standards – First Report*. (London: DfE). <http://www.education.gov.uk/schools/teachingandlearning/reviewofstandards/a00192172/review-of-teachers-standards-first-report>.

Principles and Executive Summary

There are certain key principles that were set out in the National Curriculum review remit.¹⁰ These significantly informed our thinking and it may therefore be helpful to summarise them before moving on to our recommendations.

Key Principles

- The new National Curriculum will be developed in line with the principles of freedom, responsibility and fairness – to raise standards for all children.
- Schools should be given greater freedom over the curriculum. The National Curriculum should set out only the essential knowledge (facts, concepts, principles and fundamental operations) that all children should acquire, and leave schools to design a wider school curriculum that best meets the needs of their pupils and to decide how to teach this most effectively.
- The content of our National Curriculum should compare favourably with curricula in the highest performing jurisdictions, reflecting the best collective wisdom we have about how children learn and what they should know.
- The National Curriculum should embody rigour and high standards and create coherence in what is taught in schools, ensuring that all children have the opportunity to acquire a core of knowledge in the key subject disciplines.
- The National Curriculum should provide young people with the knowledge they need to move confidently and successfully through their education, taking into account the needs of different groups, including the most able and pupils with special educational needs and disabilities (SEND).
- It is important to distinguish between the National Curriculum and the wider school curriculum (the whole curriculum as experienced by pupils in each school). There are a number of components of a broad and balanced school curriculum that should be developed on the basis of local or school-level decision making, rather than prescribed national Programmes of Study. To facilitate this, the National Curriculum should not absorb the overwhelming majority of teaching time in schools.
- The National Curriculum will continue to be a statutory requirement for maintained schools but will also retain its importance as a national benchmark of excellence for all schools, providing parents with an understanding of what their child should be expected to know at every stage of their school career.

¹⁰ DfE, (2011). *Review of the National Curriculum in England*. (London: DfE).
<http://www.education.gov.uk/schools/teachingandlearning/curriculum/b0073043/remit-for-review-of-the-national-curriculum-in-england/>.

Recommendations

This summary describes in brief our recommendations based on our work on the National Curriculum review. A fuller rationale for these conclusions is provided within the body of the report.

Knowledge, Development and the Curriculum

We recommend that the National Curriculum review should be framed by awareness of fundamental educational processes so that the necessary attention to curricular detail does not take place without regard to its consequences for the curriculum as a whole. In particular, this should include consideration of the basic interaction between subject knowledge and individual development. These issues are discussed in Chapter 1.

Aims and Purposes of the Curriculum

It is essential to be clear about the purposes that the curriculum is expected to serve; this will support the best possible selection of curriculum content. We believe defining curricular aims is the most effective way of establishing and maintaining coherent provision.

Study of the educational frameworks of high-performing jurisdictions suggests that aims are important for their systems and are often expressed at a number of different levels. We recommend that aims should be expressed at the following levels:

Level 1: Affirming system-wide educational aspirations for school curricula (a statement at this highest level applying to the school curriculum as a whole has existed in legislation since 1944; it is crucial because it provides the foundation on which the National Curriculum is built);

Level 2: Specifying more particular purposes for schools and for their curricula; and

Level 3: Introducing the goals for the Programmes of Study of particular subjects.

Reinforcing aims throughout the system will help to ensure congruence and coherence. We believe it will help to align assessment, resource development and allocation, teacher recruitment and training, and inspection. We explain our proposed aims and how they should be defined at each level in Chapter 2.

The Structure of the School Curriculum (for primary and secondary)

Our reading of the available evidence suggests that there is currently some uncertainty within the school system about what exactly constitutes the National Curriculum and the differences between core subjects, foundation subjects¹¹ and other compulsory requirements. We believe that there needs to be greater clarity to dispel this confusion.

In particular, we agree with the stated intention of the National Curriculum review to draw a clear distinction between the **National Curriculum** and the **school curriculum**, (i.e. the whole curriculum as experienced by the pupils in the school). This will help to ensure that pupils, parents, teachers and the wider public understand that the National Curriculum is not the totality of what is taught. We also support the Government's intention to recast the National Curriculum so that it sets out a core of essential knowledge to allow more scope for curricular provision determined at school or community level. We make specific suggestions in Chapter 3 about how the parts of the school curriculum should be revised.

¹¹ Within this report, we treat 'core' and 'foundation' subjects as discrete sets, as is now the common usage within English school education. However, we recognise that in the original legislation 'core' subjects are referred to as a sub-set of all foundation subjects.

Subjects in the Curriculum through the Key Stages of Schooling

A key intention of the review is to slim down the statutory curriculum requirements on schools. We have identified three possible ways to achieve this: to remove subjects altogether from statutory curriculum requirements; to retain subjects as statutory but not specify what should be taught in these subjects; or to retain subjects as statutory, but to reduce the extent of the specification of what is to be taught.

Evidence on the importance of curricular breadth persuades us that most existing curriculum elements should be retained in some statutory form. However, we recommend that some subjects and areas of learning should be reclassified so that there is still a duty on schools to teach them, but it would be up to schools to determine appropriate specific content. In other words, there would no longer be statutory Programmes of Study for such subjects. In addition, we recommend that subjects that retain statutory Programmes of Study should have their content specified in less detail. Chapter 4 explains our recommendations regarding specific subjects and topics.

We believe that at Key Stage 4 there should be greater breadth than there is in the current system. A feature of high-performing jurisdictions is a requirement on all students to study a broad range of subjects to the age of 16. It appears that England narrows its curriculum for the majority of pupils earlier than more successful nations. Specifically, we recommend that, in addition to existing arrangements, curricular provision in certain subjects should be made statutory at Key Stage 4. Chapter 4 explores the implications for greater breadth at Key Stage 4 in more detail.

The Structure of Key Stages

We believe that the four-year span of Key Stage 2 (as currently configured) is too long, and have noted that this can result in a lack of pace and ambition in Year 4 and Year 5. We recommend that the present Key Stage 2 be split in two to form two new key stages, each of two years' duration.

We also believe that there are problems with the structure of Key Stage 3 and Key Stage 4, and their interaction with patterns of adolescent development and motivation. The dip in achievement towards the end of Key Stage 3 is a well-documented phenomenon that is often attributed to a lack of student engagement and sense of purpose. We have therefore been considering the benefits of reducing Key Stage 3 to just two years to enable Key Stage 4, and GCSE preparation, to expand to three years in duration and thus provide a higher quality curriculum. However, whilst we believe a strong case for change can be made, we have identified significant challenges that would need to be faced. Consultation with others is necessary before a decision on this can be made. We explore this debate in more detail in Chapter 5.

The Organisation of Programmes of Study

We do not support use of the established key stage structure, without modification, to present new Programmes of Study. We recognise that an alternative option would be to follow a year-on-year approach. However, despite its simplicity, we note that this is not a feature of the specifications used in most high-performing jurisdictions. We have agreed that we will not recommend year-on-year specification (with the possible exception of mathematics in primary education).

We recommend instead that Programmes of Study should use our proposed key stage structure as explained above, i.e. 2-2-2-3-2 (or 2-2-2-2-3 if Key Stage 4 were to be extended to three years). We believe that many of the advantages of a year-on-year approach can still

be realised through our recommended approach if school-determined schemes of work are set out on a year-on-year basis and published by each school, as we believe should be the case.

However, while we make this recommendation, we are aware of the differences between subjects which could justify making different decisions in specific cases. For example, we believe that the particular case of mathematics in primary education deserves further consideration.

Chapter 6 explains in more detail the options and our recommendation.

The Form of Programmes of Study and Attainment Targets

We emphasise the importance of establishing a very direct and clear relationship between *'that which is to be taught and learned'* and *assessment* (both formative and ongoing and periodic and summative). Imprecise Attainment Targets and the current abstracted, descriptive 'levels' are of concern since they reduce the clarity of this relationship. We are therefore of the view that Attainment Targets in the presently established level descriptor form should not be retained.

Instead, and consistent with separating 'what is to be taught and learned' from 'statements of standards', we suggest a new approach. Programmes of Study should be stated as discursive statements of purposes, anticipated progression and interconnections within the knowledge to be acquired, with Attainment Targets being stated as statements of specific learning outcomes related to essential knowledge.

Programmes of Study could then be presented in two parallel columns. A narrative, developmental description of the key concept to be learned (the Programme of Study) could be represented on the left hand side. The essential learning outcomes to be assessed at the end of the key stage (the Attainment Targets) could be represented on the right hand side. This would better support curriculum-focused assessment. This idea needs to be explored further. This proposal and the reasons behind it are explained in Chapter 7.

Assessment, Reporting, and Pupil Progression

We have concerns about the ways in which level descriptors are currently used to judge pupil progress. Indeed, we believe that this may actually inhibit the overall performance of our system and undermine learning. For this reason, we suggest a new approach to judging progression that we believe to be, in principle, more educationally sound. We are aware that this has significant implications for assessment and accountability.

Findings from studies of high-performing jurisdictions lead us to make a suggestion to contribute to the debate. These high-performing jurisdictions focus on fewer things in greater depth in primary education. We believe that the focus should be on ensuring that all pupils have an appropriate understanding of key elements prior to moving to the next body of content i.e. when they are 'ready to progress'. We recommend that resources should be prioritised for pupils who have either fallen behind or are identified as at risk of falling behind the rest of the class. We term this approach 'high expectations for all' and explain it and its implications in Chapter 8.

Oral Language and its Development within the National Curriculum

There is a compelling body of evidence that highlights a connection between oral development, cognitive development and educational attainment. We are strongly of the view that the development of oral language should be a particular feature of the new

National Curriculum.

There are a number of possible ways of achieving this, which we explore in Chapter 9. We believe that a multi-layered approach is required for this extremely important area of curriculum provision. This should include using overarching National Curriculum statements, retaining discrete and focused elements within the Programme of Study for English, and introducing statements about oral language and its development into each Programme of Study for all core and foundation subjects.

Risks

Finally, in discharging our responsibility to advise on the National Curriculum review as a whole, there are several risks that we wish to highlight, which we believe should receive the attention of policy-makers. These include the pace of the review process, the need to ensure (insofar as it is possible) that we achieve 'curriculum coherence',¹² and the need to ensure that those working within the teaching profession are supported in delivering the new National Curriculum.

We explore these risks in turn and discuss how they could be mitigated in Chapter 10.

We begin, in Chapter 1, with a brief discussion of the fundamental educational processes that the National Curriculum serves.

¹² Oates, T., (2010). *Could do better: Using international comparisons to refine the National Curriculum in England*. (Cambridge Assessment).
http://www.cambridgeassessment.org.uk/ca/digitalAssets/188853_Could_do_better_FINAL_inc_foreword.pdf. Schmidt W. & Prawat R., (2006). Curriculum Coherence and national control of education: issue or non-issue? (*Journal of Curriculum Studies* vol38 no6 pp641-658).

Chapter 1: Knowledge, Development and the Curriculum

1.1 In reviewing the curriculum, it is helpful from the start to be aware of some fundamental educational considerations. Perhaps the most significant concerns the nature of knowledge and of learners, and crucially, the interactions between them.

1.2 Subject knowledge can be seen as representing the accumulated experience of the past and the representation of this for the future. The concepts, facts, processes, language, narratives and conventions of each subject constitute socially refined forms of knowledge – knowledge that is regarded as ‘powerful’.¹³ Indeed, the National Curriculum review can be seen as an attempt to take stock of international subject knowledge and to determine the basis on which particular elements should be included as requirements within the curriculum for the benefit of our contemporary and future society. Knowledge today is highly codified, with disciplines, associations, professions and specialist institutions.¹⁴ Many stakeholders have contributed to the Call for Evidence to make a case for the significance of their subject. Many contemporary bodies of knowledge are also mobile, with innovation and change being characteristic features. There may be less agreement about the inclusion of the latter within a National Curriculum. The review is operating with a particular focus on clear and well evidenced ‘maps’ of the key elements of subjects – giving all pupils access to ‘powerful knowledge’.

1.3 However, education is also about the development of individual learners – in schools, as pupils. There are many dimensions to this development including the personal, social and emotional as well as the physical, neurological and cognitive. For young children in particular, such factors are of great significance because they provide the foundation for learning (the ‘prime areas’, as the Tickell Report¹⁵ names them). The significance of the development of individuals over time has increasingly been recognised in recent years. Longitudinal research has demonstrated the lasting significance of high quality early learning experiences,¹⁶ and a Foresight Report from the Mental Capital and Wellbeing Project¹⁷ affirms the trajectories of ‘learning through life’ and the economic and wider benefits of such learning.

1.4 Education can thus be seen, at its simplest, as the product of interaction between socially valued knowledge and individual development. It occurs through learner experience of both of these key elements. The *school curriculum* structures these processes. As James and Pollard put it, effective teaching ‘engages with valued forms of knowledge’ and also ‘equips learners for life in its broadest sense’.¹⁸

¹³ Young, M.F.D., (2008). *Bringing Knowledge Back In: from social constructivism to social realism in the sociology of education*. (Abingdon: Routledge). Hirst, P., (1993). *The foundations of the National Curriculum: why subjects?* in P. O’Hear and J. White (eds) *Assessing the National Curriculum*. (London: Paul Chapman).

¹⁴ Young, M.F.D., (2008) *op cit*.

¹⁵ Tickell, C., (2011). *The Early Years: Foundations for Life, Health and Learning*. (London: DfE). <http://www.education.gov.uk/tickellreview>.

¹⁶ Sylva, K. et al., (2001). *Early Childhood Matters*. (London, Routledge).

¹⁷ Feinstein, L., Vorhaus, J., and Sabates, R., (2008). *Foresight Mental Capital and Wellbeing Project: Learning through life: Future challenges*. (London: Government Office for Science). http://www.bis.gov.uk/assets/biscore/corporate/migrated/ec_group/116-08-FO_b.

¹⁸ These are the first two ‘principles’ identified as outcomes from the Teaching and Learning Research Programme – the UK’s largest coordinated educational research initiative of recent years (www.tlrp.org). See James, M. and Pollard, A., (2012) *Principles for Effective Pedagogy: International responses to evidence from the UK Teaching and Learning Research Programme*. (London: Routledge).

1.5 The Expert Panel takes the view that awareness of and provision for *both* of these elements is important for effective learning and educational quality. For this reason, we have highlighted the overarching aim of providing a broad and balanced curriculum and have affirmed the significance of subject knowledge and various dimensions of personal, social, health and economic (PSHE) education.

1.6 Some educationalists emphasise subject knowledge and discount the significance of more developmental aspects of education. There are also many who foreground the development of skills, competencies and dispositions whilst asserting that contemporary knowledge changes so fast that 'learning how to learn' should be prioritised.¹⁹ We do not believe that these are either/or questions. Indeed, it is impossible to conceptualise 'learning to learn' independently of learning 'something'.²⁰ Our position is therefore that *both* elements – knowledge and development – are essential and that policy instruments need to be deployed carefully to ensure that these are provided for within education.

1.7 The two elements are not, however, equally significant at every age. In particular, developmental aspects and basic skills are more crucial for young children, while appropriate understanding of more differentiated subject knowledge, concepts and skills becomes more important for older pupils.

1.8 We will return to this conceptualisation in the conclusion of this report.

1.9 We now move from the overarching framework that has developed from our deliberations to consider, in Chapter 2, the aims and architectural elements of the curriculum.

¹⁹ See, for example: <http://www.campaign-for-learning.org.uk/cfl/learninginschools/l2l/index.asp>.

²⁰ Black, P., McCormick, R., James, M. and Pedder, P., (2006) Learning How to Learn and Assessment for Learning: a theoretical inquiry, *Research Papers in Education*, 21(2), 119-132.

Chapter 2: Aims and Purposes of the Curriculum

2.1 The first consideration when designing a curriculum is to be clear about the purposes the curriculum is expected to serve. This is essential as the best possible content needs to be selected. This is challenging when pupils have fewer than 10,500 hours of compulsory lessons between the ages of 5 to 16 (5 hours per day x 190 days per year x 11 years) – just about the amount of time estimated to be necessary to become expert in a single field e.g. playing the piano.²¹ A slimmed down National Curriculum makes the selection of content even harder and the need for principled selection greater.

2.2 Clear purposes will support the best possible selection of content, especially if reinforced at each level of the system to ensure congruence and coherence. Defining curricular aims is, in our view, the most effective way of establishing and maintaining clear purposes. We also feel that curricular aims are key to aligning resource development and allocation, teacher recruitment and training, pedagogy, assessment and inspection.²² They are also essentially ethical, moral and political statements, making transparent the values and ambitions to which a nation aspires.²³

2.3 The use of educational aims is well documented in international evidence.²⁴ Educational aims are used by many high-performing jurisdictions to establish the purpose of educational provision and to structure the independence and autonomy which schools enjoy. High-performing jurisdictions such as Finland, Singapore, Hong Kong and New Zealand ensure that principles of knowledge, teaching and learning underpin their aims and strategic commitments. In these jurisdictions, aims are taken seriously; they establish an underpinning rationale for broad school accountability that complements the specifics of performance data (see Annex 1). It also should be noted that the curriculum aims of high-performing jurisdictions cover very different categories or classes of duty, ranging from encouraging pupils to be ‘a concerned citizen’²⁵ to ‘encouraging a habit of reading’²⁶ in pupils.

How aims and purposes of the curriculum should be defined

2.4 Study of the educational frameworks of high-performing jurisdictions suggests that aims are often expressed at a number of different levels.²⁷ The different levels have discrete

²¹ See Gladwell, W., (2008). *Outliers: The Story of Success*. (New York: Little, Brown and Company).

²² This argument is also expressed by Tucker, M. S., (2011). *Standing on the Shoulders of Giants: an American agenda for education reform*. (Washington DC: National Center Education and the Economy).

²³ See the sources collected by INCA (the International Review of Curriculum and Assessment Framework Internet Archive) which is hosted at NFER. For an example, see Australia’s Melbourne Declaration on Educational Goals for Young Australians (2008) at <http://www.acara.edu.au/curriculum.html>.

²⁴ See, for example, Shuayb, M. and O’Donnell., (2008) *Aims and Values in Primary Education England and Other Countries*. (Cambridge Primary Review Research Survey 1/2). (Cambridge: University of Cambridge, Faculty of Education).

²⁵ Ministry of Education, Singapore (undated) *The Desired Outcomes of Education*. <http://www.moe.gov.sg/education/files/desired-outcomes-of-education.pdf>.

²⁶ Curriculum Development Council (2002). *Basic Education Curriculum Guide: Building on Strengths (Primary 1 – Secondary 3)* (Hong Kong: Curriculum Development Council).

²⁷ This is also the approach recommended by the Cambridge Primary Review – see Alexander, R. (ed) (2010). *Children, their World, their Education: final report and recommendations of the Cambridge Primary Review*. (London: Routledge). The Cambridge Primary Review asked ‘what is primary education for?’ (p.174-202).

functions but carefully interconnect – that is, they are coherent in Schmidt and Prawat's sense²⁸ – pulling in the same direction.

2.5 To maximise curriculum coherence, we advocate that this approach is adopted, with clear awareness of the impact of specifying aims at each level. We recommend that aims should be expressed at the following levels:

- Level 1: Affirming system-wide educational aspirations for school curricula
- Level 2: Specifying more particular purposes for schools and for their curricula
- Level 3: Introducing the goals for the Programmes of Study for particular subjects.

Level 1: Affirming overall educational aspirations for school curricula

2.6 In this model, the highest level tends to be ambitious. In the case of England and its present curriculum, this is currently fulfilled by the general requirements of Section 78 of the Education Act 2002.²⁹ This states that:

The curriculum for a maintained school or maintained nursery school satisfies the requirements of this section if it is a balanced and broadly based curriculum which:
(a) promotes the spiritual, moral, cultural, mental and physical development of pupils at the school and of society, and (b) prepares pupils at the school for the opportunities, responsibilities and experiences of later life.

2.7 This wording is set out in primary legislation and the Expert Panel affirms these educational goals. A statement at this highest level applying to the school curriculum as a whole has existed in legislation since 1944; it is crucial because it provides the foundation on which the National Curriculum is built.

Level 2: Specifying more particular purposes for schools and for their curricula

2.8 In a democracy, it is right and proper that the public and their representatives should debate the contribution that schools should make to society, given the public investment made in them.

2.9 The history of education in England reveals a number of seemingly competing models of the curriculum based on very different assumptions about what is educationally worthwhile. Each derived from what has been valued in a particular time, by a particular social class, or promoted by a particular type of school. So, for example, the great public schools built on the classical humanist tradition and were initially geared to educating the 'whole man' for leadership roles in government, the military and the Church. With the rise of the merchant and manufacturing middle classes, subjects such as science, modern European languages and geography became important in the academic curricula of the grammar schools. In the late nineteenth century, when elementary schooling for all was introduced, the masses received instruction in basic knowledge and skills.³⁰

²⁸ Schmidt W & Prawat R., (2006). Curriculum Coherence and national control of education: issue or non-issue? (*Journal of Curriculum Studies* vol38 no6).

²⁹ <http://www.legislation.gov.uk/ukpga/2002/32/section/78>.

³⁰ Page, T., (ed) (1882). *Moffatt's Pupil Teachers' Course: First Year*. (London: Moffatt and Paige). The 'New Code' detailed in this book required teachers to have the knowledge to teach: reading and repetition (50 lines of poetry); English Grammar (parsing and terminations of words) and composition (i.e. writing from memory a passage of prose); arithmetic (vulgar and decimal fractions for boys, and tradesmen's and domestic accounting for girls including measures and multiples with addition and subtraction of vulgar fractions); geography (British Isles, Australia and British North America, and

2.10 Following the Education Act of 1944³¹ when primary education was separated from secondary, more consideration was given to what was an appropriate education for younger children.³² At this point, the curriculum question shifted to a consideration of what it was most appropriate to teach in the light of psychological research about developmental needs. Most recently, in a fast-moving electronic age and global economy, the emphasis has shifted again and a curriculum based on 'transferable knowledge and skills' is advocated by a number of influential groups, such as the Royal Society of Arts³³ and the Campaign for Learning.³⁴ On this last development we should point out that we do not take the view that it is sufficient to teach transferable skills alone. Indeed, as we state in Chapter 3, all learning has content, including skills, and this content is usually quite specific. Whilst generic forms of skill and capability are important, these cannot be taught in isolation. They have to be taught in a context with content, and only then do the more generic aspects of learning become available for reflection and development.

2.11 If the Government is sincere in its desire to reduce central prescription, we need to evaluate the goals implicit in our current practices and select only those that provide a sound basis for the future. In other words, we need to be very clear about the particular aims and purposes of the school curriculum and the justification for them – bearing in mind the needs of society, the nature of knowledge, and the needs of pupils, as well as comparisons with other jurisdictions. Then we need to be thorough in our analysis of what content will serve them best.

2.12 High-performing jurisdictions are explicit about the practical and functional contributions that education makes to national development (see Annex 2). In almost all cases, schools are expected to contribute, in a balanced way, to development in all of the following domains:

- **Economic** – the education of pupils is expected to contribute to their own future economic wellbeing and that of the nation or region;
- **Cultural** – the education of pupils is expected to introduce them to the best of their cultural heritage(s), so that they can contribute to its further development;
- **Social** – the education of pupils is expected to enable them to participate in families, communities and the life of the nation; and
- **Personal** – the education of pupils is expected to promote the intellectual, spiritual, moral and physical development of individuals.

2.13 Additionally, many of the jurisdictions that we have considered that have recently conducted reviews of their curricula have introduced a high-level reference to sustainability.³⁵ With this in mind and in the light of the Government's adoption of ambitious

physical geography of mountains and rivers); history (outlines of British History); music ('where suitable means of instruction exist').

See also: Goodson, I. (1997). *The Changing Curriculum: studies in social construction*. (New York: Peter Lang); Silver, H. (1990) *Changing Education: historical change and the policy process*. (Brighton: Falmer).

³¹ <http://www.legislation.gov.uk/ukpga/Geo6/7-8/31/contents>.

³² See chapter 3: 'Policies and legacies' in Alexander, R. (ed) (2010). *Children, their World, their Education: final report and recommendations of the Cambridge Primary Review*. (Abingdon: Routledge).

³³ <http://www.thersa.org/projects/education/opening-minds>.

³⁴ <http://www.campaign-for-learning.org.uk/cfl/learninginschools/index.asp>.

³⁵ See, for example, the case of New Zealand which expresses its vision in terms of 'young people who will seize the opportunities offered by new knowledge and technologies to secure a sustainable social, cultural, economic, and environmental future for our country'

carbon reduction targets to 2027³⁶ we suggest the Government considers a recommendation that the school curriculum should also contribute to environmental 'stewardship'.

2.14 These four (or five) purposes reflect the enduring concerns of society and are well documented historically and comparatively.³⁷ Although the various strands of our own history emphasise some purposes more than others, they are all evident in some measure. A suitably 'balanced and broadly based curriculum' would, we suggest, therefore give some attention to all of them. The big challenge, however, is to be parsimonious in selecting curriculum content to serve these purposes, and thus avoid overloading the National Curriculum specifications. What is learned must be broad and balanced but also deep and secure, not superficial or transient.

2.15 We recommend that a statement expressing the contributions of education to national development should be published and debated in a public consultation on the proposals that emerge from this review, with a view to setting explicit, high-level expectations to frame the greater autonomy that is now available to schools under the Government's wider reforms.

2.16 The following list of aims indicates our thinking:

The school curriculum should develop pupils' knowledge, understanding, skills and attitudes to satisfy economic, cultural, social, personal and environmental goals. More specifically, provision should be developed to:

- 1. Satisfy future economic needs for individuals and for the workforce as a whole, including the development of secure knowledge and skills in communication, literacy and mathematics and confidence in acquiring new knowledge and skills;*
- 2. Appreciate the national cultures, traditions and values of England and the other nations within the UK, whilst recognising diversity and encouraging responsible citizenship;*
- 3. Provide opportunities for participation in a broad range of educational experiences and the acquisition of knowledge and appreciation in the arts, sciences and humanities, and of high quality academic and vocational qualifications at the end of compulsory schooling;*
- 4. Support personal development and empowerment so that each pupil is able to develop as a healthy, balanced and self-confident individual and fulfil their educational potential;*

<http://nzcurriculum.tki.org.nz/Curriculum-documents/The-New-Zealand-Curriculum/Vision>, accessed 11/11/11).

³⁶ Ministerial Statement to House of Commons by Chris Huhne (17 May 2011) for the Department of Energy and Climate Change (http://www.decc.gov.uk/en/content/cms/news/cb_oms/cb_oms.aspx).

³⁷ For international comparison, see INCA, (International Review of Curriculum and Assessment Framework Internet Archive) hosted by NFER. For the historical development and philosophical foundations of aims, see the work of John White, J., (2007) *What Schools Are For And Why*. (IMPACT Paper No 14) (Philosophy of Education Society of Great Britain); White, J., (2008). *Aims as Policy in English Primary Education* (Cambridge Primary Review Research Survey 1/1) (Cambridge, Cambridge Faculty of Education).

5. Promote understanding of sustainability in the stewardship of resources locally, nationally and globally.

2.17 Such aims have implications at each key stage, but some should take particular prominence at different stages of education. For example, the Wolf review of vocational education leads on economic arguments and concerns about the disparate opportunities available to young people.³⁸ On the other hand, the Tickell review of the Early Years Foundation Stage places an emphasis on personal development through 'prime areas of learning'.³⁹ We believe that primary education should pick up this theme of personal development, extend and deepen it, and bridge the orientation of pupils towards subject knowledge. Secondary education should refine this understanding and take pupils forward towards certification, further and higher education and the world of work.

2.18 We anticipate that specific interpretations of these aims would be developed locally by schools to demonstrate intended educational development through the relevant key stages. This process would facilitate overarching planning, review and evaluation of provision in particular key stages by each school. Outcomes would be presented to parents in demonstrating the unique character of each school and considered through school inspection processes. The provision would thus have both substance and significance.

Level 3: Introducing the goals for the Programmes of Study of particular subjects

2.19 We propose that Programmes of Study for all subjects should start with a statement outlining the specific purpose of study in that subject and the key capabilities to be developed. This would formally affirm the significance and place of each subject for teachers, parents, pupils and others, and would be coherent with aims for the curriculum as a whole.

2.20 In other words, the educational purposes of each Programme of Study would be made explicit. Such transparency has four primary intentions.⁴⁰ First, it is right in principle within an open society that the purposes of national requirements are explained and justified. Second, such transparency makes it more likely that intentions will be communicated to learners – and there is mounting international evidence that this is reflected in enhanced outcomes.⁴¹ Third, explicitness enables teaching and support for learning by others to be well focused. Fourth, such clarity informs evaluative review of provision and increases accountability.

³⁸ Wolf, A., (2011). *Review of Vocational Education*. (London: DfE).

³⁹ Tickell, C., (2011). *The Early Years: Foundations for Life, Health and Learning*. (London: DfE).

⁴⁰ See, for instance, Standish, P., (1999). Education without aims, in Marples, R. (ed) *The Aims of Education*. (London: Routledge).

⁴¹ One of the principal strategies for enhancing attainment relies on teachers communicating learning intentions and success criteria clearly to pupils so that they understand what it is that they are supposed to be learning and why (not simply what they are supposed to be 'doing') and how to recognise high quality (standards). This was one of the key findings of a key review of research: Black, P. and Wiliam, D., (1998). Assessment and Classroom Learning, *Assessment in Education*, vol, 5(1): 5-75.

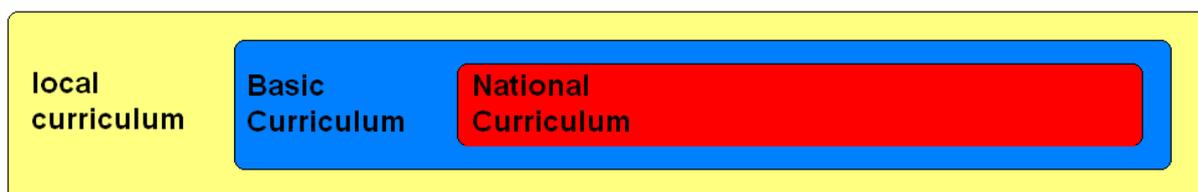
Chapter 3: The Structure of the School Curriculum (for primary and secondary)

3.1 In this chapter we begin by outlining the current structure of the school curriculum, before making recommendations concerning the different parts of the curriculum. In so doing, we recognise that interpretations of some aspects of the architecture of existing provision have developed in particular ways since their initial establishment in the Education Reform Act 1988. Before we can look to the future, we need to clarify current provision.

The current structure of the school curriculum

3.2 The '**school curriculum**' comprises the whole curriculum as experienced by the pupils in each school. The school curriculum is the sum of the National, Basic and local curricula, which we go on to define below. This is illustrated in the following diagram (Figure 1).

Figure 1: The School Curriculum



3.3 The **National Curriculum** currently consists of core and foundation subjects.⁴² Current legislation requires the Secretary of State to publish Programmes of Study and Attainment Targets for all core and foundation subjects.

3.4 The core subjects are presently English, mathematics and science, which are compulsory across Key Stages 1 - 4. Foundation subjects for Key Stages 1 - 3 are:

- Art and design;
- Design and technology (D&T);
- Geography;
- History;
- Information and communication technology (ICT);
- Music;
- Modern foreign languages (MFL) (at Key Stage 3 only);
- Physical education (PE); and
- Citizenship (at Key Stage 3).

3.5 Foundation subjects for Key Stage 4 are:

- Citizenship;
- Information and communication technology; and
- Physical education.

3.6 The '**Basic Curriculum**' describes the statutory requirements for curricular provision in addition to the National Curriculum.⁴³ These are compulsory requirements but schools are

⁴² The curriculum requirements for maintained schools are set out in Part 6 of the Education Act 2002. Sections 84 and 85 provide for the National Curriculum subjects for all four key stages.

able to determine for themselves the specific nature of this provision (although maintained schools cannot determine the nature of religious education provision). The Secretary of State is therefore not required to produce Programmes of Study and Attainment Targets for subjects and topics in the Basic Curriculum.

3.7 Specifically, the Basic Curriculum comprises requirements in current legislation for the teaching of religious education (RE) (throughout primary and secondary school, with local SACRE (Standing Advisory Committee for Religious Education) guidelines, sex education (Key Stages 3 and 4), careers education (Key Stage 4) and opportunities for work-related learning⁴⁴ (Key Stage 4).

3.8 Schools are currently free to complement the National and Basic Curricula with other curricular elements that are determined at school or community level. We use the term '**local curriculum**' to describe this additional part of the school curriculum.

3.9 The table below (Figure 2) summarises the different parts of the school curriculum.

Figure 2 – The School Curriculum

	Brief description	Statutory basis	Responsibility
National Curriculum	Essential knowledge to be taught in statutory core and foundation subjects. Current legislation requires the Secretary of State to publish Programmes of Study and Attainment Targets for all core and foundation subjects.	Education Act 2002 sets out the National Curriculum as part of the Basic Curriculum.	Schools appropriately implement statutory Programmes of Study.
Basic Curriculum	Requirements for curricular provision in other subjects. Schools are able to determine the specific nature of this provision for themselves.	Education Act 2002 sets out what constitutes the Basic Curriculum, including the National Curriculum, RE, sex education and careers education (and at present, work-related learning).	Schools appropriately implement requirements.
Local Curriculum	Supplementary areas of learning (including knowledge, understanding, skills and attitudes, and vocational learning options) and expansion and contextualisation of the content of subjects covered in the National and Basic Curricula.	Education Act 2002 only sets out the duty to deliver a broad and balanced curriculum. This includes a duty to deliver the Basic Curriculum (including the National Curriculum).	Schools and communities innovate and determine additional educational provision which they judge appropriate.

⁴³ In legislation, the current National Curriculum (core and foundation subjects) is nested in the Basic Curriculum.

⁴⁴ The Government, in its response to the Wolf review, has announced its intention to seek to remove the duty for schools to provide work-related learning and is currently considering this issue.

Our recommendations about the structure of the school curriculum

3.10 We understand that the Government has no immediate plans to change the legislative framework that underpins the structure of the school curriculum. We have therefore worked within it and are not recommending changes to the overarching structure. However, we recommend specific revisions to the National, Basic and local curricula.

3.11 Responses to this review's Call for Evidence suggest that there is some uncertainty about what exactly constitutes the National Curriculum and the differences between core subjects, foundation subjects and other compulsory requirements. We believe that there needs to be greater clarity to dispel the confusion. Many respondents to the Call for Evidence said it was important that it should be crystal clear which aspects of the National Curriculum were statutory and which were not.⁴⁵

3.12 We also believe that parts of the school curriculum should be revised to make their distinctions and relationships clear. In particular, we agree with the stated intention in the remit of the National Curriculum review that a very clear distinction should be made between the National Curriculum and the school curriculum. This will help to ensure that pupils, parents, teachers and the wider public understand that the National Curriculum is not expected to be the totality of what is taught. We also support the intention set out in this review's remit that the National Curriculum should constitute a core of essential knowledge to allow more scope for curricular provision determined at school or community level.

3.13 We have set out below in detail how we believe the National, Basic and local curricula should be revised.

National Curriculum

3.14 The National Curriculum should remain a combination of core and foundation subjects. We believe that it should specify the detail of essential knowledge in core subjects but focus on a more limited set of significant expectations for a range of foundation subjects, i.e. drawing a clear distinction between core and foundation subjects. In this way, all pupils would be able to access a core of essential knowledge, but schools would not be overloaded by prescription. To summarise:

- a. core subjects should be specified for each key stage through detailed Programmes of Study and Attainment Targets. We recommend that further non-statutory advice on the interpretation of the Programmes of Study and Attainment Targets should be made available.
- b. foundation subjects should be specified for each relevant key stage through significant but refined and condensed specifications.

3.15 We explain which subjects we believe should be core and foundation subjects in Chapter 4.

3.16 We accept the view that there should be statutory assessment carried out by teachers in the core subjects at the end of each key stage, as is currently the case. We welcome the recommendations by Lord Bew and his panel that there should be external testing at the end of Key Stage 2 for mathematics and English.⁴⁶ There should also be annual reporting to parents for both core and foundation subjects.

⁴⁵ DfE, (2011). *National Curriculum Review Call for Evidence Summary Report*. (see Overview).

⁴⁶ Bew, P., (2011). *Independent Review of Key Stage 2 testing, assessment and accountability – Final Report*. (London: DfE).

Basic Curriculum

3.17 Provision in the Basic Curriculum should still be compulsory. Schools should be able to determine for themselves the specific nature of this provision, except that religious education in maintained schools should, as now, follow locally agreed guidelines.

3.18 The Basic Curriculum should however be expanded to include some subjects that we recommend should be removed from the National Curriculum, in order to slim it down. The next chapter explains which subjects we believe should be moved to the Basic Curriculum and which subjects should remain in the National Curriculum.

Local Curriculum

3.19 The 'local curriculum' should allow substantial scope for curricular provision determined at school or community level.⁴⁷ This might include additional subjects or courses, but it should also enable schools to extend or contextualise the National and Basic Curricula in ways best suited to the needs of particular groups of pupils.

3.20 A particular expectation on schools will therefore be to ensure that the local curriculum supports pupils in their studies in the subjects and topics included in the National Curriculum and the Basic Curriculum, in the most effective way possible. We believe this is the priority and will provide an opportunity for schools to ensure that the curriculum is motivating and meaningful to pupils.⁴⁸

3.21 The local curriculum should also provide opportunities for schools to innovate and to develop particular curricular interests or specialisms insofar as they decide they are appropriate.⁴⁹ For example, a specific focus might be developed for a school's provision or for a phase of learning, either as separate elements e.g. 'philosophy for children'⁵⁰ or integrated across the school curriculum, such as 'thinking skills'.⁵¹ Schools may also wish to make explicit provision for the development of commitment to lifelong learning.⁵²

3.22 The local curriculum should therefore complement the specificity of the mandatory National and Basic Curricula, giving opportunities for teachers, schools and communities to make autonomous decisions. This is intended to leave substantial scope for school leaders and classroom teachers to exercise professional judgement and creativity in deciding how to contextualise, extend, deepen and embed the curriculum and learning experience.⁵³

⁴⁷ This suggestion is similar to the recommendation made by the Cambridge Primary Review, which proposed a 'community curriculum partnership'; see Alexander, R. (ed) (2010). *Children, their World, their Education: final report and recommendations of the Cambridge Primary Review*. (London: Routledge), p 273.

⁴⁸ This has been a longstanding problem with the National Curriculum, in that too much prescription has risked pupil disengagement. For example: Pollard, A. and Triggs, P., (2000). *Policy, Practice and Pupil Experience: Changing English Primary Education*. (London: Continuum).

⁴⁹ Pilot work illustrating this potential has been undertaken by the RSA (see <http://www.thersa.org/projects/education/area-based-curriculum>).

⁵⁰ As inspired by Lipman, M., Sharp, A. M. and Oscanyan, F.S., (1980). *Philosophy for Children*, Philadelphia (PA: Temple University Press).

⁵¹ McGuinness, C., (1999). *From thinking skills to thinking classrooms: A review and evaluation of approaches for developing pupils' thinking*. (London: HMSO).

⁵² See for example, Claxton, G. (2002). *Building Learning Power*. (Bristol: TLO) or Hargreaves, D. (2004). *Learning for Life: The Foundations for Lifelong Learning*. (Bristol: Policy Press) or the work of ASDAN (www.asdan.org.uk).

⁵³ For an elaboration of this argument, see Pollard, A., (2010). *Professionalism and Pedagogy: A Contemporary Opportunity* (London: TLRP/GTCE). (www.tlrp.org).

School curriculum

3.23 The school curriculum will continue to comprise the National, Basic and local curricula. As a whole, the school curriculum should demonstrably fulfil the statutory requirement of the 2002 Education Act for a balanced and broadly-based school curriculum that promotes the spiritual, moral, cultural, mental and physical development of pupils. Under the proposed new inspection arrangements this will be reviewed by Ofsted,⁵⁴ and we propose that it should also be reported annually to parents in addition to performance information. Schools will be responsible for the overall quality of the curriculum as experienced by pupils.

⁵⁴ Ofsted, (2011). *Ofsted New School Inspection Framework*. (London: Ofsted).
<http://www.ofsted.gov.uk/resources/common-inspection-framework-2012>.

Chapter 4: Subjects in the Curriculum through the Key Stages of Schooling

4.1 We will now build on the previous chapter's recommendations concerning the structure of the school curriculum. We make recommendations about subjects in the curriculum through the key stages of schooling.

4.2 As we stated earlier in this report, a key intention of the National Curriculum review, as expressed in its remit, is to slim down the prescribed requirements placed on schools through the National Curriculum. There are three possible ways to do this: to remove subjects altogether from statutory curriculum requirements (i.e. remove subjects from the National and Basic Curricula); to retain subjects as statutory but not specify what should be taught in these subjects (i.e. move from the National to the Basic Curriculum); or to retain subjects as statutory, but to reduce the extent of the specification of what is to be taught (i.e. require less detailed specification of Programmes of Study for foundation subjects).

4.3 We have considered these three options in turn and set out below our recommendations.

Option 1 - Removal of subjects/topics altogether from statutory curriculum requirements (i.e. removing subjects and topics from the National and Basic Curricula)

4.4 An INCA enquiry was carried out to inform this review, examining international evidence on curriculum organisation and content.⁵⁵ It shows a very strong pattern, with high-performing jurisdictions tending to promote a wide range of subjects though the years of compulsory provision. High performance thus appears to be associated with broad forms of curriculum provision – a pattern that Ofsted also has repeatedly recorded.⁵⁶

4.5 The review's Call for Evidence also produced a clear response in this matter. Although mindful of the self-selecting nature of respondents, and also noting that there were some significant variations in the degrees of support for different subjects remaining within the National Curriculum, the most noticeable outcome was that the existing breadth of the National Curriculum was broadly supported. Indeed, although not asked explicitly, 35% of respondents chose to state that breadth is a key strength of the current National Curriculum.⁵⁷ Many respondents supported the retention of art and design, design and technology, geography, history, information and communication technology, modern foreign languages and music within the National Curriculum. There was less support for the retention of citizenship.

4.6 We suggest therefore that the existing curriculum subjects are retained in some statutory form (in either the National or Basic Curricula). However, to achieve a reduction in prescription we recommend that significant efforts are made to focus existing curriculum subjects on *essential* knowledge only, and that the level of detail is specified carefully.

⁵⁵ See Annex 3, which uses INCA (the International Review of Curriculum and Assessment Framework Internet Archive, hosted at NFER) data to tabulate subjects in the compulsory curriculum of many high-performing countries, mapped against England.

⁵⁶ This is one of the core arguments of the Cambridge Primary Review, citing sources as far back as the 1931 Hadow Report. Among significant Ofsted documentation of the relationship is Ofsted (2002). *The Curriculum in Successful Primary Schools*, Ofsted (2010). *Learning: creative approaches that raise standards* and Ofsted (2009). *Characteristics of outstanding secondary schools in challenging circumstances*. (London: Ofsted).

⁵⁷ DfE, (2011). *National Curriculum Review Call for Evidence Summary Report* (see Summary response to Q6a 'what do you think are the key strengths of the current National Curriculum?').

Option 2 - Reclassification of subjects/topics which remain statutory (i.e. moving them from the National to the Basic Curriculum)

4.7 While there appears to be a strong argument for retaining most existing curriculum subjects in some statutory form, we believe that the National Curriculum should be slimmed down by reclassifying some subjects and topics as part of the Basic Curriculum. This would retain a duty on schools to teach them, but would enable schools to determine appropriate content, i.e. there would no longer be centrally prescribed Programmes of Study or Attainment Targets.

4.8 Despite their importance in balanced educational provision, we are not entirely persuaded of claims that design and technology, information and communication technology and citizenship have sufficient disciplinary coherence⁵⁸ to be stated as discrete and separate National Curriculum 'subjects'. We recommend that:

- **Design and technology** is reclassified as part of the Basic Curriculum. We recommend that design and technology programmes should be developed by schools in response to local needs and interests, which is why we take the view that a reclassification to the Basic Curriculum is desirable.
- **Information and communication technology** is reclassified as part of the Basic Curriculum and requirements should be established so that it permeates all National Curriculum subjects. We have also noted the arguments, made by some respondents to the Call for Evidence,⁵⁹ that there should be more widespread teaching of computer science in secondary schools. We recommend that this proposition is properly considered.
- **Citizenship** is of enormous importance in a contemporary and future-oriented education. However, we are not persuaded that study of the issues and topics included in citizenship education constitutes a distinct 'subject' as such. We therefore recommend that it be reclassified as part of the Basic Curriculum.

4.9 These subjects would be added to the existing subjects and topics in the Basic Curriculum, including aspects of personal, social, health and economic (PSHE) education. In fulfillment of the educational principles set out in the section on Principles, Executive Summary and in Chapter 1, we welcome the Department's internal review of PSHE Education.⁶⁰ We note that, whilst sex education and careers education are statutory requirements within the Basic Curriculum, there are other elements of conventional provision in PSHE (for example topics associated with financial capability) and social and emotional aspects of learning (SEAL) that are not so designated. We believe that continuity in provision for personal and social education is important throughout the stages of schooling. This is

⁵⁸ Implicit in this judgement is a view of disciplinary knowledge as a distinct way of investigating, knowing and making sense with particular foci, procedures and theories, reflecting both cumulative understanding and powerful ways of engaging with the future. In this sense, disciplinary knowledge offers core foundations for education, from which the subjects of the curriculum are derived. Some very worthwhile areas of learning apply such knowledge in particular ways or foreground particular areas of skill or competence – but have weaker epistemological roots. Our judgement about possible reclassification is based on the balance of advantage, given the need to reduce prescription in the National Curriculum.

⁵⁹ For example see NESTA, (2011). *Next Gen: Transforming the UK into the world's leading talent hub for the video games and visual effects industries – a review by Ian Livingstone and Alex Hope*. (London: NESTA). (page 6) <http://www.nesta.org.uk/library/documents/NextGenv32.pdf>.

⁶⁰ <http://www.education.gov.uk/consultations/index.cfm?action=consultationDetails&consultationId=1759&external=no&menu=1>.

foregrounded in the proposed Early Years Foundation Stage (EYFS) framework⁶¹ and we believe that this emphasis should be built upon through primary education and beyond.⁶² Our rationale is implicit in the discussion of Chapter 1 concerning the fundamental educational interaction between subject knowledge and individual development. We recognise that PSHE falls outside of our remit, but have contributed separately to the Department's internal review of PSHE to ensure our views are considered.

4.10 Religious education (RE) and careers education are also outside our remit and we are therefore not recommending changes to how they are specified in the Basic Curriculum.

Option 3 - Reduction in the extent of the specification of certain subjects/topics (i.e. requiring less detailed specification of Programmes of Study for foundation subjects)

4.11 As explained in Chapter 3, we recommend that National Curriculum specifications should provide two different degrees of detail in, depending on whether the subject is core or foundation. We propose the distinction should be that:

- (a) core subjects should be specified for each key stage through detailed Programmes of Study and Attainment Targets; and
- (b) foundation subjects should be specified for each relevant key stage through significant but refined and condensed Programmes of Study, with minimal or no Attainment Targets.

4.12 Although there is a need for further consideration of possible variations by key stage, we recommend that:

- Core subjects of the National Curriculum should, as now, be **English, mathematics and science**; and
- Foundation subjects of the National Curriculum at Key Stages 1 - 4 should be **geography, history and physical education**. Foundation subjects at Key Stages 1 - 3 should be **art & design** and **music**. **Modern foreign languages** should be a foundation subject at Key Stages 2 - 4.

4.13 It is worth noting at this point that the optimum age at which to introduce **modern foreign language** teaching remains a contested matter that requires careful consideration of evidence;⁶³ this is not yet fully resolved and we therefore present modern foreign languages in lower Key Stage 2⁶⁴ as a query at Figure 3 at the end of this chapter. However, we do believe because of its importance that it should be included in the National Curriculum at upper Key Stage 2, which represents a change to the existing arrangements.

4.14 We believe that these recommended changes to the existing arrangements explained so far in this chapter will slim down the curriculum requirements on schools at Key Stages 1 - 3.

⁶¹ Tickell, C., (2011). *The Tickell Review - The Early Years: Foundations for Life, Health and Learning*. (London: DfE). <http://www.education.gov.uk/tickellreview>.

⁶² The PSHE Association makes the case on such matters, at www.pshe-association.org.uk.

⁶³ We are aware, for instance, of the arguments in favour of teaching language awareness in primary schools to avoid language choices which cannot be continued in secondary education, and the counter-proposals of those who believe that more specific capability in a language should be developed from as young an age as possible.

⁶⁴ In the next chapter we explain the structure of key stages and our recommendation to split Key Stage 2 into two separate key stages.

Curriculum load and breadth at Key Stage 4

4.15 At Key Stage 4, unlike in Key Stages 1 - 3, we are concerned that the existing arrangements narrow the curriculum too early. We focus instead, therefore, on how the provision of focused breadth can be ensured at Key Stage 4, which we believe is possible without generating too demanding a requirement on schools.

4.16 International evidence supporting the provision of focused breadth at Key Stage 4 is extremely strong (see Annex 3) and it appears that England narrows its curriculum earlier than many of the high-performing jurisdictions. This has the consequence at Key Stage 4 of depriving many young people of access to powerful forms of knowledge and experience at a formative time in their lives, and foreclosing on some pathways and choices. As with many of the changes that we feel are suggested by the international evidence, this would place pressure on the skill base of the existing teaching force, and we recognise that significant problems of teacher shortages in specific subject areas exist. We have also taken account of the fact that a number of high-performing jurisdictions stage their schooling so that pupils take their key public examinations at age 17 or 18 rather than 16.

4.17 Specifically we recommend that, in addition to existing arrangements, curricular provision in the following subjects should be made statutory at Key Stage 4: **geography, history, modern foreign languages** (all foundation subjects within the National Curriculum), **design and technology** and **'the arts'** (both parts of the Basic Curriculum). We go on to explain our recommendation about 'the arts' in more detail later in this chapter).

4.18 We are aware that, contrary to the intentions of the review to slim down the National Curriculum these recommendations may appear demanding. However, while it is proposed that core subjects in the National Curriculum will have detailed Programmes of Study and Attainment Targets, other subjects and topics including those outlined above could be stated in the form of short, refined and condensed listings or descriptions of requirements concerning essential knowledge, understanding or skill. This would protect the breadth and associated quality of learning experience which we have observed as a tendency in high-performing jurisdictions (see Annex 3), without creating an overloaded curriculum. We do acknowledge a risk that condensed specification in some subjects might lead to a more minimal treatment of those subjects in some schools, but believe that this will be mitigated as schools will be held accountable to parents and Ofsted for the choices they make. We expect that schools will welcome the increased degree of freedom to develop appropriate curricula for their own pupils, whilst ensuring that a common core is provided.

4.19 We see provision of focused breadth at Key Stage 4 through the National and Basic Curriculum as complementing the development of the English Baccalaureate⁶⁵ (EBacc).⁶⁶ Our proposal appears to be consistent with recommendations 1, 2 and 3 of the Wolf review on vocational education, that appropriate qualifications for 14 - 16 year olds should contribute to meaningful performance indicators and should 'safeguard pupil access to a common core as a basis for progression'. We are mindful however of possible unintended consequences for other subjects of such a proposal, for instance, for religious education. Such issues will need to be considered further.

⁶⁵ The English Baccalaureate was introduced as a performance measure in the 2010 performance tables. The measure recognises where pupils have secured a C grade or better across a core of academic subjects – English, mathematics, history or geography, the sciences and a language.

⁶⁶ The EBacc alone is unlikely to achieve the breadth, balance and depth of learning sought as an entitlement for all pupils. For example, in the case of the history curriculum, the statutory Programme of Study would have to end in Year 9 if pupils were to be offered a choice of geography or history in KS4, or a choice of different GCSE history syllabuses. Therefore the problem of 'doing Hitler' repeatedly in secondary education, and excluding much else, could continue.

4.20 For clarity, we are not proposing that all students follow full GCSE courses in the full range of subjects and topics that we envisage being statutory at Key Stage 4. We recommend that evidence should be collected on whether non-certificated provision (with fewer hours' timetable allocation per week, for example as provided within the independent sector) would be motivating or de-motivating for pupils. We are aware of contradictory signs on this. We know that some schools and local authorities have established highly motivating out of hours provision in subjects (indicating that well-designed non-certificated programmes can be effective). On the other hand, achieving such engagement can also be extremely challenging for schools in some circumstances. Provision of non-certificated courses could run the risk of undermining attendance policy and stimulating low levels of motivation – weakening the authority of schools and the curriculum.

4.21 In addition, we are concerned that an instrumental attitude, which values test and examination results and certificates as ends in themselves, has become increasingly evident in the English system. This diminishes the priority that should be given to ensuring that the underlying learning being accredited is deep and secure. In order to mitigate this narrow instrumentalism in learning, urgent attention will need to be given to relevant control factors, particularly assessment systems and accountability measures affecting all schools.⁶⁷ If assessment and accountability systems are to be valid, they need to represent all valued learning outcomes not just a narrow subset of them. In this context, the role of Ofsted and school governors in ensuring that a school's curriculum is broad, balanced and fit for purpose will be crucial.

Art and music – the arts

4.22 It may be worth explaining specifically why we believe 'the arts' should be made compulsory at Key Stage 4. Bearing in mind the influence that the EBacc is having on the provision of academic courses in Key Stage 4 for a larger proportion of pupils, we are concerned, as in primary education, that the role of art and music in a broad, balanced and effective education should not be lost. As Annex 3 shows, of the 14 jurisdictions compared, only four, including England, cease compulsory provision of art and music by the age of 14. Massachusetts (US) and Ontario (Canada) continue compulsory art and music till 18.

4.23 Apart from the intrinsic worth of including art and music in the statutory curriculum from 5 to 16 because of the importance of pupils acquiring knowledge of their cultural heritage(s), there is now substantial evidence that a good art and music education benefits individuals, their communities and the nation as a whole in other ways. For example, a recent report from the US President's Committee on arts and humanities⁶⁸ provides evidence of benefits to pupil engagement, cognitive development and achievement, including in mathematics and reading. Similar findings have been reported recently in Australia⁶⁹ and in a systematic review of research carried out in the UK.⁷⁰ In addition to these educational outcomes for

⁶⁷ For evidence of the effects of instrumentalism see Mansell, W., James, M. and the ARG., (2009). *Assessment in Schools: Fit for purpose?* (London: ESRC TLRP). www.tlrp.org.

⁶⁸ President's Committee on the Arts and Humanities, (2011). *Reinvesting in Arts Education: winning America's education through creative schools*. (Washington, DC). http://www.pcah.gov/sites/default/files/photos/PCAH_Reinvesting_4web.pdf.

⁶⁹ Vaughan, T., Harris, J. and Caldwell, B., (2011). *Bridging the Gap in School Achievement through the Arts*. (Victoria: The Song Room).

⁷⁰ CASE (culture and sport evidence programme), (2010). *Understanding the impact of engagement in culture and sport: a systematic review of research on the learning outcomes of young people participating in the Arts*. (London: EPPI Centre, Institute of Education).

pupils, consideration needs to be given to the importance of creative subjects to the economic health of the nation.⁷¹

4.24 In other words, the arts subjects in the curriculum have the potential to meet aims and purposes in all of the domains mentioned in Chapter 2 (i.e. economic, cultural, social and personal). We therefore recommend that education in art and music should be supported in Key Stage 4 through statutory requirement (separately or in combination), i.e. as part of the Basic Curriculum, as broad responsibilities; content should be determined by the school.

Summary of recommendations

4.25 The table on the next page (Figure 3) summarises our recommendations by key stage for core and foundation subjects of the National Curriculum, and for the other areas of learning in the Basic Curriculum. For comparison, the current requirement is presented at Annex 4.

⁷¹ In December 2010, the Department of Culture, Media and Sport (DCMS) published the following statistics: the creative industries, excluding crafts, accounted for 5.6% of Gross Value Added (GVA); creative employment totalled just under 2.3 million jobs; an estimated 182,100 enterprises in the Creative Industries made up 8.7% of all enterprises; exports of services from the creative industries totalled £17.3 billion, equating to 4.1% of all exports. DCMS., (2010). *Creative Industries Economic Estimates. (Experimental Statistics)*.
http://www.culture.gov.uk/images/research/CIEE_Full_Release_Dec2010.pdf. These are estimates only.

Figure 3 - Proposed requirement

Subject	KS1	KS2 (Lower)	KS2 (Upper)	KS3	KS4
English	✓	✓	✓	✓	✓
Mathematics	✓	✓	✓	✓	✓
Science	✓	✓	✓	✓	✓
Art & design	✓	✓	✓	✓	
Geography	✓	✓	✓	✓	✓
History	✓	✓	✓	✓	✓
MFL		**	✓	✓	✓
Music	✓	✓	✓	✓	
PE	✓	✓	✓	✓	✓
The arts (inc. music)					✓ *
Citizenship				✓	✓
D&T	✓	✓	✓	✓	✓
ICT	✓	✓	✓	✓	✓
Careers					
Religious education					
Sex education					
Work-related learning					

✓	NC Core subject – detailed Programmes of Study and Attainment Targets
✓	NC Foundation subject – refined and condensed Programmes of Study and minimal or no Attainment Targets
✓	Basic Curriculum – compulsory curricular requirement but schools determine appropriate specific content
	Not required, but could be taught by schools as part of the Local curriculum
	These subjects and areas of learning are currently in the Basic Curriculum and are therefore outside of our remit. We are not recommending changes to how they are specified.

* The arts, at Key Stage 4, would combine art and music but also other aspects of the arts (e.g. dance and drama).

** The optimum age at which to introduce modern foreign language teaching remains a contested matter that requires careful consideration of evidence; this is not yet fully resolved. Further consultation and analysis of evidence is necessary on the question of modern foreign languages in lower Key Stage 2.

Chapter 5: The Structure of Key Stages

5.1 Since 1988, by statute, the National Curriculum has been organised through four key stages.⁷² This pattern, with the key stages respectively 2, 4, 3 and 2 years in duration, largely reflected previously established conventions and school structures.

5.2 The table below (Figure 4) shows the current key stages and how they relate to individual school years.

Figure 4 – Current School Year/Key Stage structure

School Year (age)	Key Stage
1 (5/6)	1
2 (6/7)	
3 (7/8)	2
4 (8/9)	
5 (9/10)	
6 (10/11)	
7 (11/12)	3
8 (12/13)	
9 (13/14)	
10 (14/15)	4
11 (15/16)	

5.3 We are not persuaded that this is the optimal form of organisation. In particular, two issues arise: the long duration of Key Stage 2, and the structure of Key Stages 3 and 4 and their relationship to GCSEs.

Key Stage 2

5.4 The present four-year duration of Key Stage 2 is long and we believe that this can result in a lack of pace and ambition in Year 4 and Year 5.⁷³ Furthermore, arguments for the importance of teaching in Year 5 and Year 6 being undertaken by subject specialists have been advanced for decades,⁷⁴ but this has proved to be organisationally difficult to achieve. Both of these issues were recognised in the discussions we have had with a number of stakeholders.⁷⁵

5.5 For these reasons, we recommend that the present Key Stage 2 should be split to form two new key stages, each of two years' duration. To avoid renumbering of established key stages, the new provision could be known as 'Lower Key Stage 2' and 'Upper Key Stage 2'. If this were to be made a formal National Curriculum requirement, this would require new primary legislation, and consideration would be required as to how best to implement the new National Curriculum to take account of this.

⁷² See 1988 Education Reform Act <http://www.legislation.gov.uk/ukpga/1988/40/contents>.

⁷³ Ofsted has reported inspector judgements on pupil progress for some years using successive frameworks for inspection. See, for example, Ofsted., (2010). *The Annual Report of Her Majesty's Chief Inspector of Education, Children's Services and Skills 2009/10*. (London: Ofsted)

⁷⁴ See, for example, the 30 year narrative in Alexander, R. (ed) (2010). *Children, their World, their Education: final report and recommendations of the Cambridge Primary Review*. (London: Routledge), p431/2.

⁷⁵ These include representatives from the Cambridge Primary Review and the Primary Umbrella Group.

5.6 Programmes of Study would describe the subject matter to be taught and Attainment Targets (where specified) would describe the learning outcomes expected at the end of Year 2, Year 4 and Year 6. At the end of Year 2 and Year 4, schools would report to parents on the basis of statutory teacher assessment. External testing at the end of Year 6 would continue, as recommended by Lord Bew.⁷⁶

5.7 This change would balance the freedom offered by removing the prescriptions of the National Strategies with the need to maintain expectations in terms of subject coverage. It would also facilitate age-appropriate innovation in forms of school organisation, including the possible use of more subject specialists in Upper Key Stage 2. In the consultations with key primary organisations, primary education practitioners and others to date, the proposal has been supported.

5.8 The table below (Figure 5) illustrates the proposed key stages in comparison with the existing key stages:

Figure 5 – Table showing existing key stage structure against proposed key stage structure

Existing Key Stages		Proposed Key Stages	
Key Stage 1	Y1/2	KS1	Y1/2
Key Stage 2	Y3/4/5/6	Lower KS2	Y3/4
		Upper KS2	Y5/6

Key Stages 3 and 4

5.9 We are keenly aware, as we explained in the previous chapter, that the majority of high-performing jurisdictions require all students to study a broad range of subjects to the age of 16, including art & design, geography, history, modern foreign languages and music. Indeed, as mentioned earlier, the table at Annex 3 shows that all but one of the high-performing comparator jurisdictions maintains a broad and balanced curriculum to age 16.

5.10 Whilst the 2002 Act sets out four entitlement areas in which pupils can elect to take courses of study in Key Stage 4 (the arts, design and technology, humanities and modern foreign languages), this does not in practice guarantee a broad curriculum for all students when compared to high-performing jurisdictions.

5.11 Our present curricular provision at Key Stages 3 and 4 may therefore be a structural weakness of the English system, with the unintended consequence of reducing access to powerful forms of knowledge for some social groups. Introduction of the English Baccalaureate (EBacc) may begin to change this and we acknowledge Professor Wolf's view that work in Key Stage 4 should be mainly academic.⁷⁷ However, further implications of the current structure of Key Stages 3 and 4 merit consideration.

⁷⁶ Bew, P., (2011). *Independent Review of Key Stage 2 testing, assessment and accountability – Final Report*. (London: DfE).

⁷⁷ Professor Alison Wolf, in her review of vocational education, was very clear that allowing young people to specialise too soon narrows their choices and limits their chance to secure further learning and employment in the longer term. Her report noted that, in a normal school setting, the vocational component of students' programmes should not be expected to exceed around 20% of teaching time, but did not recommend any specific action to restrict how much time should be devoted to vocational programmes for some, or all, students. Wolf, A. (2011). *Review of Vocational Education*. (London: DfE). (<https://www.education.gov.uk/publications/standard/publicationDetail/Page1/DFE-00031>).

5.12 In particular, we consider that there are problems with the current structure of Key Stage 3 and Key Stage 4, and their interaction with patterns of adolescent development and motivation. The dip in achievement at Key Stage 3 is a well-documented phenomenon that is often attributed to a lack of student engagement and sense of purpose.⁷⁸ Further, the three-year duration of the present Key Stage 3 is seen by many schools as reducing the time available to prepare pupils to take GCSEs. A significant and rapidly increasing number of schools are already effectively reducing Key Stage 3 to two years.⁷⁹ In addition, option choices made at age 13/14 do not always turn out to have been wise in the light of experience and may result in a reduction of opportunities in the longer term. In short, we are concerned that present arrangements may inadvertently compound disadvantage for some groups, despite being designed to alleviate them. Figure 6 (a) below summarises the main benefits and issues of the current secondary key stage structure.

Figure 6(a) Main benefits and issues relating to the current key stage structure

Y7/8/9, Y10/11 (the 3 year – 2 year approach)	
Benefits	Issues
Teachers are very familiar with the model and retaining it avoids upheaval in the system.	A large segment of pupils find Key Stage 3 unengaging and unfocussed, and assume a very negative attitude to school, leading to low attainment. Many begin to take intensive learning really seriously only when GCSE programmes start.
It reflects a fairly balanced junior secondary/senior secondary split.	In many instances, poor articulation between National Curriculum and GCSE.
If a reduced common core at Key Stage 4 is preferred to allow a wide range of option choices mid-way through secondary education, then a three-year Key Stage 3 provides for at least a grounding in foundation subjects.	GCSEs are relatively small qualifications (10% of curriculum time) and programmes are in reality only 18 months long – extending the learning programmes by one year would better support learning in key elements of the curriculum.
A measurement such as the EBacc (capable of occasional refinement) can be used to improve breadth and balance.	
Under this model the broad-based National Curriculum extends to 14 only. Option choices at 14 then allow students to select subjects towards which they are particularly motivated.	

5.13 We have therefore considered the benefits of reducing Key Stage 3 to just two years to enable Key Stage 4, and GCSE preparation, to expand to three years in duration and provide a higher quality curriculum (see Figure 6(b)). This change would complement our recommendation, explained in the previous chapter, that pupils should follow a wider range of subjects to the end of Key Stage 4. For clarity, we would still make this recommendation if the existing key stage structure is retained. We believe that expanding Key Stage 4, and GCSE preparation, to three years would:

- avoid premature subject choices that might disadvantage students later, especially those lacking strong parental support;

⁷⁸ For a recent review of research, encompassing 300 studies, on this and related matters, see Gray, J., Galton, M., McLaughlin, C., Clarke, B. and Symonds, J., (2011). *The Supportive School; Wellbeing and the Young Adolescent*. (Newcastle upon Tyne: Cambridge Scholars Publishing).

⁷⁹ Ofsted, (2011). *History for All*. Page 6 states: ‘in one in five of the secondary schools visited, curriculum changes, such as the introduction of a two-year Key Stage 3 [that] allowed some students to give up history before the age of 14’. (London: Ofsted).

- enable essential knowledge to be taught in greater depth over a longer period, with access to specialist teaching and with more motivated students, rather than condensed into the time before the end of Key Stage 3; and
- expand possibilities for either:
 - non-certificated curricular enrichment for all pupils, similar to that provided in many independent schools, in the arts, humanities, sport and community activity, or
 - certificated short courses (perhaps half-GCSEs) combining essential knowledge from clusters of subjects (in the arts, humanities and PE, for instance) for those not wishing to pursue full GCSEs in all separate subjects.

5.14 However, whilst this idea is attractive, we recognise that lengthening GCSE courses and requiring students to study further subjects (or clusters of subjects) in Key Stage 4 would:

- reduce the flexibility schools currently enjoy to ensure that the Key Stage 4 curriculum meets the vocational and academic aspirations of their students at the time;
- necessitate a review of provision for curricular enrichment and/or certificated short courses which broaden a pupil's main GCSE options – including consideration of any implications for GCSE criteria;
- require substantial changes to existing GCSE courses and examinations; and
- require primary legislation.

5.15 In summary, a strong case for change can be made, but challenges would need to be faced. We recognise that these may be too significant at present to justify the change and that there may be certain legislative barriers, although we think it is worth recording our deliberations. We recommend therefore that serious consideration be given to this proposal. Figure 6(b) on the next page summarises its main benefits and issues.

Figure 6(b) Main benefits and issues of the 2 years – 3 years approach

Y7/8, Y9/10/11 (the 2 year - 3 year approach)	
Benefits	Issues
<p>Would harness positive wash-back of high stakes assessment to increase focus in Year 9. We believe that the evidence suggests that pupils would be motivated, and sense of relevance and purpose would be enhanced; existing evidence suggests that learners really begin to focus due to the influence of GCSE. It would provide a remedy to the 'Key Stage 3 dip'.</p> <p>This model would allow good 'levelling' of candidates i.e. allowing teachers to ensure that all pupils have a good foundation in the key concepts in the GCSE syllabi prior to consolidated study in the last 18 months of the GCSE programme. Again, this would harness the motivating effects of high stakes assessment. This 'foundation' approach plus the positive impact of high stakes assessment on Year 9 (rather than just Years 10 and 11) has the promise of leading to higher overall attainment (higher attainment standards at age 16).</p> <p>It provides a larger body of curricular knowledge from which the GCSE assessment can sample. GCSEs would effectively become longer and more substantial – they are currently relatively small qualifications in the crucial subjects of mathematics and English.</p>	<p>More radical departure requiring a substantial redesign of GCSE.</p> <p>The 'broad and balanced' National Curriculum (e.g. art, D&T, English, geography, history mathematics, MFL, music, and science) would need to continue to 16 <i>in some form</i> (see our indicative proposals), otherwise it would stop at the end of the two year Key Stage 3 (typically at age 13, a year earlier than in the current system). This may demotivate some students who wish to drop certain foundation subjects at the end of Key Stage 3.</p> <p>Potentially complex legally, because of interactions with other legislation which refer to Key Stage 4.</p> <p>Early taking of GCSE would need to be discouraged e.g. options for doing this would need careful consideration and could include only allowing counting of school performance scores for results taken in Year 11.</p>

5.16 We have also considered the possibility of splitting Key Stage 3 into a block of one year followed by a two year block. The first year would comprise a 'reception' into secondary. See Figure 6(c) on the next page, which summarises the main benefits and issues of this approach.

Figure 6(c) Main benefits and issues of the 1 year – 2 years – 2 years approach

Y7, Y8/9, Y10/11 (the 1 year - 2 year – 2 year approach)	
Benefits	Issues
<p>The first year could comprise a 'reception' into secondary, with a focus on developing the learning skills and foundation knowledge needed for intensive study prior to GCSE (2 years of a broad programme) and study for GCSE (where subject choices have been made). However if more specialist teaching is introduced in Upper Key Stage 2, a 'reception' year in secondary may be unnecessary.</p> <p>Does not demand coverage of all National Curriculum subjects to 16, so allows more specialisation/subject choice, which may enhance motivation and engagement with schooling.</p> <p>This requires no substantial revision of GCSEs - although GCSEs in National Curriculum subjects will in any case require revision in order to ensure that they meet the broad aims of the National Curriculum and are not inconsistent with it.</p> <p>Can be achieved on a non-statutory basis within existing primary legislation.</p>	<p>The notion of a 'reception' year in to secondary could exacerbate the issue of the 'Key Stage 3 dip' in performance and engagement that occurs during the three years prior to commencement of two-year GCSE programmes. The 'dip' manifests itself in lack of focus, reduced engagement and reduced commitment to learning/school.</p> <p>This could be magnified if Year 7 is perceived as a 'catch up year', thus reducing sustained pressure for continuity in progression between primary and secondary.</p>

Chapter 6: The Organisation of Programmes of Study

6.1 This chapter focuses on how Programmes of Study should be organised. It reviews a debate on how to balance the competing imperatives of clarifying National Curriculum requirements whilst enabling schools and teachers to exercise professional judgement.

6.2 There are two main options we considered before agreeing on the recommendation we decided to make. These options were: setting out Programmes of Study which follow our recommended key stage structure (as explained in the previous chapter); or moving to a model whereby Programmes of Study set out what schools should teach in each subject in each school year.

The year-by-year approach

6.3 During the review, the review team has collated a range of documents mapping the content of curricula for English, mathematics and science in high-performing jurisdictions. They did this by analysing curricula in high-performing jurisdictions, as well as previous versions of the National Curriculum for England. This has enabled detailed consideration of progression and coherence within each subject, and focused the engagement of subject specialists and researchers. These source documents are therefore important resources in the construction of appropriate Programmes of Study and related Attainment Targets.

6.4 With the question of how to present Programmes of Study in mind, we also carefully evaluated evidence on the efficacy of alternative forms of organisation in the presentation of the curriculum content. For example, E. D. Hirsch sets out the Common Core Curriculum⁸⁰ on a year-by-year basis and this approach is being trialled in Australia for some core subjects.⁸¹

6.5 Despite the apparent simplicity of a year-by-year approach, we noted that it is not a feature of the specifications used in most high-performing jurisdictions.⁸² However, it is also important to recognise that some jurisdictions (Singapore, Hong Kong) do not organise their curriculum specifications year-by-year, but do have prescribed/approved textbooks. These provide a *de facto* year-by-year specification. Other jurisdictions have *recommended* textbooks (Alberta, Massachusetts) but not all of these jurisdictions use year-by-year specifications.

6.6 The evidence for the benefits of a year-by-year specification is therefore equivocal. In England, the National Strategies *were* set out in this way. Over this period, after an initial modest increase, most of which predated the introduction of the National Strategies,

⁸⁰ See <http://www.coreknowledge.org>. For influential background thinking on this see, for example: Hirsch, E. D., (2007). *The Knowledge Deficit: Closing the Shocking Educational Gap for American Children*. (New York: Houghton Mifflin).

⁸¹ See <http://www.australiancurriculum.edu.au/Curriculum/Overview>.

⁸² In analysing approaches to curricular structure, we reviewed the practice of the following high-performing and fast improving jurisdictions: Finland; Flemish Belgium; Hong Kong; Shanghai; Singapore; USA (Massachusetts); Australia (New South Wales and Victoria); Canada (Alberta) and New Zealand. Our analysis showed a mixed picture with many jurisdictions organising their teaching/assessment via multiple year/grade periods or key stages/levels. Where a year-on-year approach was adopted it was done for specific subjects only, e.g. Singapore favours a year-on-year approach for mathematics and science whereas USA (Massachusetts) uses a blended approach of year-on-year for some courses, with the majority of curriculum organised in multi-grade blocks.

improvement in standards remained flat⁸³ and our comparative international league-table position fell.⁸⁴

6.7 We are aware that, even if curriculum content were to be specified on a year-by-year basis within the new Programmes of Study, current primary legislation would still only require coverage by the end of the key stage. However, we believe that a year-by-year specification is likely to be interpreted in an over-prescriptive way and could thus inhibit adaption to meet specific pupil needs and curriculum innovation more generally.

6.8 We therefore reached the conclusion that, although the Programme of Study for each key stage will necessarily be linear, we would not recommend a particular form of year-by-year delivery (with the possible exception of mathematics in primary education, which is discussed at the end of this chapter).

Recommendation – two-year approach

6.9 In the review’s Call for Evidence, respondents expressed a preference for the Programmes of Study of core subjects to be presented using a key stage structure as opposed to a year-by-year approach. The table below (Figure 7) quantifies this opinion. The response in favour of a key stage approach is even more marked for foundation subjects.

Figure 7 – Table showing outcomes of the review’s Call for Evidence on Programme of Study structure

Question: should the Programme(s) of Study be set out on a year-on-year basis for each key stage?			
	By key stage	By year-on-year	Not sure
English	58%	30%	12%
Mathematics	54%	33%	13%
Science	63%	26%	11%

6.10 We are mindful that when respondents gave their contributions to the Call for Evidence and supported Programmes of Study using a key stage structure, they would have had the existing key stage structure in mind. However, as the last chapter explains, our judgement is that to accept the present key stage structure may not offer sufficient support or convey appropriate ambition, particularly during the four years of Key Stage 2. This has been one of the drivers of our recommendation that the present Key Stage 2 should be divided, so that greater clarity and pace can be injected, and so that subject-specific forms of curriculum organisation can more easily be introduced into the later years of primary education.

6.11 We recommend that Programmes of Study should use our proposed key stage structure as explained in Chapter 5, i.e. 2-2-2-3-2 (or 2-2-2-2-3 if Key Stage 4 were to be extended to three years), with content being set out in blocks representing a whole key stage rather than a single year.

6.12 We believe that many of the advantages of a year-by-year approach can still be realised through this approach if school-determined schemes of work are set out on a year-by-year basis. We believe this should be the case. Such schemes of work should relate each

⁸³ See Tymms, P. and Merrell, C., (2007). *Standards and Quality in English Primary Schools over Time: the National Evidence*. Cambridge Primary Review Research Survey 4/1. (Cambridge: University of Cambridge, Faculty of Education).

⁸⁴ See Whetton, C., Ruddock, G. and Twist, L. (2007). *Standards in English Primary Education: the International Evidence*. (Cambridge Primary Review Research Survey 4/2.) (Cambridge: University of Cambridge, Faculty of Education).

Programme of Study to the particular learning needs and circumstances of each school's pupils. This will provide scope for schools to determine the specifics of their own curriculum and for teachers to exercise professional judgement in deciding upon the precise activities that will promote deep understanding.⁸⁵ We recommend that schools should be required to publish their schemes of work for scrutiny by both parents and inspectors.

6.13 International evidence is unequivocal that the most effective teaching combines subject knowledge with understanding of pupil needs and the resourcefulness and creativity to combine the two in the provision of high quality feedback.⁸⁶ We believe the two-year approach that we recommend will provide guidance to teachers on appropriate subject coverage and expectations, whilst also ensuring that there is sufficient flexibility so that pupil needs can be matched. Our recommendation is intended to balance structure, expectation and flexibility.

6.14 We believe the advantages of this approach considerably outweigh the disadvantages as the following tables (Figures 8(a), 8(b), 8(c)) show. The tables also include our analysis of the other two options.

Figure 8(a)

Present Key Stage model (2-4-3-2)		
Advantages	Disadvantages	Further Commentary
Supported by almost two thirds of those expressing views in the Call for Evidence.	Quality of delivery depends substantially on teacher subject expertise.	Continuing Professional Development (CPD) and web-based support may be provided.
Maximises teacher autonomy.	Offers only modest subject support to teachers.	Ofsted should inspect the quality, breadth and balance of each school's curriculum provision.
Opportunities for innovation and development of subject expertise.	May contribute to pupil drift and a lack of ambition in KS2.	
Enables teachers to match subject study to pupil needs.	May lead to certain important topics being 'skipped over'.	
Is well established and understood.		

⁸⁵ We are aware here of the importance now being attributed to the exercise of professional judgement in Hong Kong through its *Learning for Life: Learning through Life* reform programme and in Singapore's *Teach Less, Learn More*. In both cases the need to structure instruction is being moderated by the parallel need to engage pupils in specific learning contexts.

⁸⁶ See, for example, Hattie, J., (2009). *Visible Learning. A Synthesis of over 800 Meta-analyses Relating to Achievement*. (London, Routledge).

Figure 8(b)

Year by Year model (1-1-1-1-1-1-1-1-1-1)		
Advantages	Disadvantages	Further Commentary
<p>May support teachers by setting out subject progression requirements in great detail.</p> <p>Suggests explicit expectations for each year.</p> <p>Parents can be informed of annual curricular objectives by central government.</p> <p>Publishers can produce explicitly targeted diagnostic tests and curriculum materials.</p> <p>May facilitate deeper learning and understanding of key topics.</p>	<p>Implies a constraint on teacher autonomy and thus undermines policy commitments.</p> <p>Requires long, complex and repetitive Programme of Study documentation.</p> <p>Supported by only one third of those expressing views in Call for Evidence.</p> <p>May inhibit deeper learning by reducing teachers' flexibility in matching subject to learner needs.</p> <p>Likely to pose severe problems for small primaries with mixed-age classes.</p> <p>Constrains development of teacher subject expertise.</p> <p>Requires greater resources in schools because of more simultaneous working e.g. pressure on textbooks.</p>	<p>Risk of teacher inflexibility would require clear, compelling and applied guidance that pupils should be taught material that is appropriate to their developmental level – which could be above or below the 'typical' or 'average' age-specific expectation.</p> <p>CPD and web-based support may be provided.</p> <p>Ofsted should inspect the quality, breadth and balance of each school's curriculum provision.</p>

Figure 8(c)

Proposed two year model (2-2-2-2-3)		
Advantages	Disadvantages	Further Commentary
<p>Supports teachers by setting out subject progression requirements in significant detail but avoids artificial differentiation of material.</p> <p>More sensitive than year-by-year to developmental pupil differences – particularly summer born.</p> <p>Suggests expectations for each key stage.</p> <p>Is supported by most of those expressing views in primary education stakeholder consultations.</p> <p>Provides for appropriate teacher and school autonomy.</p> <p>Creates opportunities for innovation and development of subject expertise.</p> <p>Enables teachers to match subject study to pupil needs.</p> <p>Publishers are required to make provision for flexible use within materials.</p> <p>Resource efficiencies in primary schools because work can be distributed throughout key stages.</p>	<p>Anxiety that statements of attainment would be too imprecisely tied to the age at which things should be learnt.</p> <p>Quality of delivery depends on teacher subject expertise supported by guidance from the Programme of Study.</p>	<p>Key year-by-year recommendations can be embedded if appropriate within the text of any two-year Programme of Study, thus maintaining high expectations.</p> <p>Parents continue to be informed by schools of specific annual curricular objectives, based on local decisions about how the schemes of work will be organised in their school.</p> <p>CPD and web-based support may be provided.</p> <p>Ofsted should inspect the quality, breadth and balance of each school's curriculum provision.</p>

The potential need for specific subject decisions

6.15 However, while we make a two-year recommendation, we are aware of the differences between subjects which could justify making a different decision in specific cases. For example, we recognise that the particular case of mathematics in primary education deserves further consideration. We are nevertheless aware of the views from the

Mathematical Association and the Advisory Committee for Mathematics Education, expressed in their responses to the Call for Evidence. These significant organisations each expressed concern about a year-by-year approach to mathematics because of the constraint on flexibility to match learner needs. We recommend further investigation of this issue.

Chapter 7: The Form of Programmes of Study and Attainment Targets

7.1 Programmes of Study highlight the focus of teaching and learning activities and how they might be developed. Attainment Targets are intended to make clear the learning outcomes that are expected as a result of experiencing the Programme of Study. Whilst the former describes what should be taught ('recommended routes to attainment'), the latter confirms the standard expected (that 'one has arrived').

7.2 During the international comparative research conducted for this review, we have taken note of the ways in which national curricula are presented and, in particular, the form through which programmes for study and statements of desired learning outcomes are communicated. We noted that, in the 1999 National Curriculum specifications of the Programmes of Study for England, there existed a mixed combination of outcome statements and statements of that which should be taught. Documentation of the Core Knowledge Sequence by E. D. Hirsch⁸⁷ has provided influential examples of what is considered to be effective in the U.S. context. We have also noted analyses of previous National Curricula in England, for instance by Professor Paul Black,⁸⁸ which suggest that problems have arisen because of a failure to be clear on the specific purposes of crucial elements of the specification.

7.3 In England, Programmes of Study and Attainment Targets have often lacked precision even after successive reviews of the content of the National Curriculum. However, the search for precision is vital and is consistent with well-grounded practice in assessment. This focuses on clear definition of constructs (e.g. understanding of 'entropy' in Physics; elaborated use of metaphor in English etc) and then develops tests using a test specification which shows how the constructs will be assessed. Other jurisdictions concentrate on establishing great clarity regarding the vital elements upon which learning and assessment jointly will be focused.⁸⁹

7.4 We thus emphasise the importance of establishing a very direct and clear relationship between 'that which is to be learned' and all assessment (both formative and ongoing, through to periodic and summative). Imprecise Attainment Targets and the current abstracted, descriptive 'levels' are of concern, since they reduce the clarity of this relationship. They thus distract from the 'curriculum coherence' that Schmidt and Prawat detect in high-performing systems.⁹⁰

7.5 We are therefore of the opinion that Attainment Targets in the presently established level descriptor form should not be retained. We are however aware that, while the Call for Evidence report shows mixed views about level descriptors, many respondents thought that levels provide a benchmark for comparisons and a good guide for children's progress that would be difficult to change.

7.6 Instead, and consistent with separating 'what is to be taught' from 'statements of standards', we suggest an approach in which the Programme of Study is stated as a

⁸⁷ www.coreknowledge.org.

⁸⁸ Especially his personal contribution to the Call for Evidence, *Consultation on the revision of the National Curriculum*, April 2011. Paul Black is an Emeritus Professor at King's College, University of London.

⁸⁹ Oates, T., (2010). *Could do better: Using international comparisons to refine the National Curriculum in England*. (Cambridge: Cambridge Assessment).

⁹⁰ Schmidt, W. and Prawat, R., (2006), Curriculum coherence and national control of education: Issue or non-issue? *Journal of Curriculum Studies*, 38(6), 641-58,

discursive statement of purposes, anticipated progression and interconnection within the knowledge to be acquired. Attainment Targets should then be statements of specific learning outcomes related to essential knowledge. This approach has the benefit of greater precision – both in orienting teaching and giving a clear rationale for teaching content – and in respect of assessment, since the Attainment Targets would be both detailed and precise.

7.7 In his response to the Call for Evidence, Professor Paul Black provided helpful illustrations of how the Programme of Study might be set out in relation to essential knowledge and its progressive development within a key stage, in such a way that concise Attainment Targets could developed from such statements. The following are two of his examples from Physics:

”...the specification for each key stage should (i) provide an introductory statement which identifies the main strands and the progression in pupils' learning which is expected and (ii) present guidance as a prose paragraph in which the connections between ideas can be presented and examples cited. Examples of such paragraphs are given below for two cases, as follows:

(a) Pupils need to develop the idea of the force of gravity as a force of attraction acting between the Earth and any object close to it. This force of attraction between the Earth and an object acts at a distance. The force of the Earth on an object is called the weight of the object. Developing the concept of gravity thus requires pupils to move away from explanations based on things falling 'because they are heavy' to an interaction between Earth and object.

(b) Pupils should develop understanding and use of electric circuits, starting with understanding that a complete loop is needed, then recognising the possibilities of series and parallel, seeing that battery 'strength' changes the effects, seeing that effects depend on both source and the components in the loops, moving to use of terms current, potential difference and resistance to elaborate these notions, make the conceptual leap involved in seeing that current is not 'used up', and come to be able to make calculations to make quantitative predictions.“

7.8 This advice endorsed the idea that the Programmes of Study could be presented in two parallel columns. A narrative, developmental description of the key concept to be learned (the Programme of Study) could be represented on the left hand side. The essential learning outcomes to be assessed at the end of the key stage (the Attainment Targets), could be represented on the right hand side. This proposition needs to be explored further.

7.9 If this proposal is viable then it will require careful explanation, because it is a significant departure from what has become familiar, especially with respect to Attainment Targets. Attainment Targets taking this role in the core subjects may be longer than those currently used and thus generate criticism of the National Curriculum being 'led by assessment'. However, Attainment Targets would be more closely linked to the content of succinct and focused Programmes of Study. Taking this approach has much greater technical and practical integrity, and is likely to improve both learning and assessment. The key challenge will be to write Attainment Targets that are as few and concise as possible in the choice and expression of 'essential' learning outcomes. We do not want to encourage the promulgation of huge numbers of atomistic and trivial statements of attainment that characterised earlier versions of the National Curriculum.

Chapter 8: Assessment, Reporting, and Pupil Progression

8.1 The way in which the achievement of pupils is assessed and reported has a profound impact on the operation of an education system, with implications for pupil motivation, the priorities of teachers and schools, and the kind of information that is available to stakeholders.

8.2 As noted earlier, a universal feature of high-performing jurisdictions is a pervasive belief that all students can learn, and to high standards. However, the way in which this belief is put into practice in terms of assessment and reporting varies widely in different countries. For this reason, we have looked at a wider range of evidence to inform our thinking.

8.3 We have concerns, expressed also in the Bew review⁹¹ and by some respondents to this review's Call for Evidence⁹² about the ways in which 'levels' are currently used to judge pupil progress, and their consequences. Indeed, we believe that this may actually inhibit the overall performance of our system and undermine learning. For this reason, we suggest a new approach to judging progression that we believe to be, in principle, more educationally sound. This has some significant implications for assessment and accountability.

8.4 We are concerned by the ways in which England's current assessment system encourages a process of differentiating learners through the award of 'levels', to the extent that pupils come to label themselves in these terms.⁹³ Although this system is predicated on a commitment to evaluating individual pupil performance, we believe it actually has a significant effect of exacerbating social differentiation,⁹⁴ rather than promoting a more inclusive approach that strives for secure learning of key curricular elements by all. It also distorts pupil learning, for instance creating the tragedy that some pupils become more concerned for 'what level they are' than for the substance of what they know, can do and understand.⁹⁵ This is an unintended consequence of an over-prescriptive framework for curriculum and assessment.

8.5 It should be possible to do better, particularly in primary education where there is significant emphasis on establishing the foundations for later learning. By the end of secondary education pupil attainments are necessarily differentiated and will be certificated accordingly through the examination system. However, we believe strongly that before the end of compulsory schooling, the structures for assessing and reporting achievement on the National Curriculum should foster the possibility of high achievement for all, rather than constrain it.

⁹¹ Bew, P., (2011). *Independent Review of Key Stage 2 testing, assessment and accountability – Final Report* (London: DfE).

⁹² DfE, (2011). *National Curriculum Review Call for Evidence Summary Report* (see Executive Summary). (London: DfE).

⁹³ See, for example, Reay, D. and Wiliam, D., (1999). I'll be a nothing: Structure, agency and the construction of identity through assessment, *British Educational Research Journal* vol 25(3), 343-354.

⁹⁴ Social differentiation in classrooms has been studied for many years by sociologists who have analysed the ways in which routine organisational strategies, assessment practices and 'labelling' can affect pupil behaviour and generate social inequalities. See, for example, classics such as: Rist, R., (1970) 'Student social class and teacher expectations', *Harvard Education Review*, No 40, 411-51; Ball, S., (1981) *Beachside Comprehensive*, (Cambridge, Cambridge University Press). See also Filer, A. and Pollard, A., (2000) *The Social World of Pupil Assessment: Processes and Contexts of Primary Schooling*. (London: Continuum).

⁹⁵ See, for example, the analysis on this in Alexander, R. (ed) (2010). *Children, their World, their Education: final report and recommendations of the Cambridge Primary Review*. (London: Routledge), p315.

What do other countries do?

8.6 A distinctive feature of some of the high-performing systems that we have examined in the course of the review appears to be a radically different approach to pupil progression and to differentiation.⁹⁶ Crude categorisation of pupil abilities and attainment is eschewed in favour of encouraging **all** pupils to achieve adequate understanding before moving on to the next topic or area.⁹⁷ Achievement is interpreted in terms of the power of effort rather than the limits of ability.⁹⁸ The emphasis on effort is particularly marked in the Confucian-heritage countries such as China, Hong Kong SAR, Singapore, South Korea and Taiwan. The assumption here is that deep engagement with subject matter, including through memorisation where appropriate, leads to deeper understanding.⁹⁹ In Western countries, especially in the US and England, the assumption has often been that capacity to learn, and achieve, is determined by innate endowment of fixed intelligence (ability).¹⁰⁰ This assumption – that there are limits on what children are capable of learning – has had a negative influence on expectations of achievement and how learning and assessment is organised.

8.7 Amongst the international systems which we have examined, there are several that appear to focus on fewer things in greater depth in primary education, and pay particular attention to all pupils having an adequate understanding of these key elements prior to moving to the next body of content – they are ‘ready to progress’. We judge this approach to be a fundamental rather than surface, element of a number of high-performing jurisdictions. We believe that this approach is likely to be instrumental in securing higher standards with lower spread of attainment at the end of the primary phase.

8.8 Teachers in such systems see their task as ensuring that all pupils have developed an adequate level of understanding of the key concepts and content in a block of learning prior to moving onto the next block of content. Labelling of differential attainment is of secondary importance.

8.9 In line with strictures regarding naive ‘extraction’ from transnational comparisons, we are however cautious about drawing simplistic conclusions regarding the role of any single dimension of any one or any group of countries. In key East Asian nations and in Finland, it is clear that factors such as family culture, the length of the school day, additional tutoring, and teacher quality sit alongside other explanatory and ‘control’ factors in enabling these jurisdictions to tackle underachievement amongst specific groups and raise overall

⁹⁶ Reynolds, D. & Farrell, S., (1996). *Worlds Apart? A Review of International Surveys of Educational Achievement Involving England*. (London: HMSO).

⁹⁷ Reynolds, D. & Farrell, S. (1996). *Worlds Apart? A Review of International Surveys of Educational Achievement Involving England*. (London: HMSO) and Stigler J.W. & Stevenson H.W., (1991). *How Asian teachers polish each lesson to perfection*, *American Educator* 1991 Spring, pp.12-47.

⁹⁸ These concepts have been analysed many times, both philosophically and empirically. One of the most influential studies of recent years is that of Carol Dweck., (1999). *Self-theories: their role in motivation, personality and development*. (Philadelphia: Psychology Press). Dweck studied the personal theories formed by children to explain their capabilities. Those envisaging fixed intelligence often developed ‘learned helplessness’ and relatively poor performance, whilst those believing in incremental development were more likely to develop a ‘mastery’ orientation. Pollard A. and Triggs P. (2000). *What Pupils Say: changing policy and practice in primary education*. (London: Continuum) (p305) argued that ‘pupil motivation and engagement in school is vulnerable to erosion at a time when national requirements are imposed and when teachers’ scope for curricular and pedagogic responsiveness to children becomes limited’.

⁹⁹ See for example, Cogan, J., Morris, P. and Print, M., (2002). *Civic Education in the Asian-Pacific Region*. (London: Routledge Falmer).

¹⁰⁰ The most prominent discussion of this recently has arisen from Herrnstein, R.J. and Murray, C., (1994). *The Bell Curve*. (Free Press).

standards. The model of differentiation and progression does however appear to be particularly important.

8.10 Naturally however, it is a far from simple picture. South Korea at one time virtually mandated differentiation out of the system in primary education. Meanwhile, Hong Kong uses within-school rank ordering vigorously but, as with South Korea and Singapore, also operates with a curriculum model focusing on 'fewer things in greater depth' which all pupils are expected to attain. They also emphasise effort rather than ability.¹⁰¹

8.11 Nor does scrutiny of 'spread' and attainment data yield a consistent picture across all high-performing nations. While the balance of evidence is clearly that countries with higher achievement tend to have less variation in pupil achievement,¹⁰² there is no clear trend within high-performing jurisdictions. Moreover, there are no consistent historical datasets over a sufficient period to examine the impact of changes in the spread of achievement on overall levels of achievement.

8.12 On the other hand, we believe that there are sufficient other sources of evidence, including both from large data sets and from smaller experimental studies which identify causative influences, to suggest that this is an important debate which we should have in relation to England.¹⁰³

8.13 Studies of the improvement strategies of countries such as Singapore, Hong Kong, South Korea and Finland suggest that the approach to progression and to differentiation is

¹⁰¹ Ng, I.S.P., (2004). *Perspectives on streaming, EM3 pupils and literacy: views of participants*. (Unpublished B.A. thesis, National Institute of Education, Nanyang). <http://conference.nie.edu.sg/paper/Converted%20Pdf/ab00187.pdf>; Reynolds, D. & Farrell, S., (1996). *Worlds Apart? A Review of International Surveys of Educational Achievement Involving England*. (London, HMSO).

¹⁰² Wilkinson, R., & Pickett, K., (2009). *The spirit level: why more equal societies almost always do better*. (London: Allen Lane, The Penguin Press). See also Hanushek, E. A., & Woessman, L. (2006). Does educational tracking affect performance and inequality? Differences-in-differences evidence across countries, *Economic Journal*, 116(510), C63-C76. This paper shows that the introduction of educational 'tracking' increases inequality, and is associated with reduced educational achievement.

¹⁰³ In an important review of 250 studies of which 50 were fairly carefully controlled experiments, Black and William concluded that, with appropriate interventions, achievement for all could be raised very significantly (effects sizes from 0.4 to 0.7) but most significantly for those often characterised as 'less able'. (Black, P and William, D., (1998). *Assessment and Classroom Learning, Assessment in Education: principles, policy and practice* vol. 5, no. 1, pp7-75). An international analysis by Hanushek and Woessman (2006) found that increased variation in student achievement was associated with lower student achievement (Hanushek, E. A., & Woessman, L. (2010). *The economics of international differences in educational achievement* (Vol. 4925). (Bonn: Forschungsinstitut zur Zukunft der Arbeit). At the 'micro' level, there are a large number of studies that show that increases in the quality of the learning environment are associated with increases in average levels of achievement and reduced variation. Examples from the early years are McCartney, K., Dearing, E., Taylor, B. A., & Bub, K. L. (2007). Quality child care supports the achievement of low-income children: Direct and indirect pathways through caregiving and the home environment. *Journal of Applied Developmental Psychology*, 28, 411-426, and Hamre, B. K., & Pianta, R. C. (2005). Academic and social advantages for at-risk students placed in high quality first grade classrooms. *Child Development*, 76(5), 949-967. For secondary age students, Slater, Davies, and Burgess found that high quality teachers benefited low-achieving pupils most, and thus narrowed the range of achievement (Slater, H., Davies, N., & Burgess, S. (2008). *Do teachers matter? Measuring the variation in teacher effectiveness in England* (Bristol: University of Bristol Institute of Public Affairs). For additional evidence on the efficacy of particular teaching strategies see Hattie, J. (2008) *Visible Learning: A Synthesis of over 800 Meta-analyses Relating to Achievement* London: Routledge), or Chapter 15, 'Rethinking Pedagogy' in the final report of the Cambridge Primary Review – Alexander, R.(ed) (2010) (2010). *Children, their World, their Education: final report and recommendations of the Cambridge Primary Review*. (London: Routledge), Chapter 15.

an important factor in these systems.¹⁰⁴ While the model has been vigorously enforced in South Korea, it manifests itself more subtly in Finland through processes such as ensuring all students, regardless of ability, have dedicated ‘catch-up’ support after even very short periods of absence.¹⁰⁵ In neither case is this approach necessarily linked to retention and holding pupils back. In some countries it is a shared, explicit strategy with ideological connotations; for example, it may arise from a political commitment to equity. In others, it is a more implicit strategy, embedded in ingrained practices and processes

8.14 This approach appears to be particularly concerned with securing a suitable degree of understanding by all pupils prior to moving on to the next set of learning objectives. For example, ‘holding the group together’ is a key feature in Singapore, where around one quarter of children enter primary school with no experience of formal pre-school settings. These children are frequently assigned to special classes of between five and eight pupils, and are taught by highly skilled and qualified specialist staff with the aim of bringing them up to a level of understanding which enables them to be re-integrated into mainstream groups as quickly as possible, giving a more even spread of attainment in teaching groups.

8.15 As indicated above, it is important to understand that this model applies principally to primary education. Many of the systems in which this model is used progressively change in secondary education to more selective and differentiated routes.¹⁰⁶ Spread of attainment then appears to increase in many of these systems, but still with higher overall standards than we currently achieve in England.

What might an appropriate approach for England look like?

8.16 Mindful of Carol Dweck’s classic work on pupil motivation,¹⁰⁷ the approach to pupil progression used by some high-performing countries could be referred to as a ‘mastery model’, and this emphasis could be replicated in the English context. However, this focus implies that all learners reach a single understanding of a specific concept or body of knowledge, and that there is a simple ‘threshold’ of mastery. It channels attention towards a desired outcome, but it does not guide teachers when they plan and deliver curriculum provision.

8.17 In line with the focus of the National Curriculum review, we prefer to highlight the crucial *inputs*. We have therefore opted to recommend an approach to pupil progression that emphasises ‘high expectations for all’ – a characteristic of many high-performing jurisdictions. This conveys necessary teacher commitment to both aspiration and inclusion, and implies the specific set of fundamental achievements that all pupils should attain. The anticipated outcome remains that pupils are ready to progress at the end of each key stage, having mastered the knowledge identified in relevant schemes of work and/or Programmes of Study.

8.18 ‘High expectations for all’ also ties in conceptually with statements made about expectations, teaching quality and school provision in both the new Inspection Framework

¹⁰⁴ Reynolds, D. & Farrell, S., (1996). *Worlds Apart? A Review of International Surveys of Educational Achievement Involving England*. (London, HMSO); Dewhurst, J., (1996). Differentiation in Primary Teaching, *Education 3-13*, vol 24(3), 27-36.

¹⁰⁵ Sahlberg P., short history of educational reform in Finland in *Education in Finland*. (Taipei: NIOERAR).

¹⁰⁶ Selection and differentiation in secondary education often arises from historical legacy rather than evidence-based decision making.

¹⁰⁷ Dweck, C. S., (2000). *Self-theories: their role in motivation, personality and development*. (Philadelphia, PA: Psychology Press).

for Schools¹⁰⁸ and the new teaching standards.¹⁰⁹ In terms of control factors¹¹⁰ and coherence, there is thus some helpful resonance across other areas of activity being coordinated by the Department.

8.19 We have identified ten salient dimensions that contribute to 'high expectations for all'.

1. *Presumption of capability for improvement*¹¹¹
This contrasts with notions of inherited abilities which constrain self-confidence and learning.
2. *Maintenance of high expectations*¹¹²
This dimension conveys both aspiration and confidence to the pupil, thus enhancing their potential to learn.
3. *A focused curriculum with appropriate depth*
Such clarity supports high quality learning of essential knowledge, and is particularly important in primary education.
4. *Tangible learning objectives*
The focus here is on authentic learning rather than on the acquisition of labels associated with abstract and over-generalised levels.
5. *Constructive feedback for all pupils*¹¹³
This feature offers practical support for self-improvement on learning tasks.
6. *Valuing of effort*
This dimension highlights the value of concentration and practice.
7. *Resolute commitment to essential knowledge for all*
Here we draw attention to the necessary commitment by schools to ensuring that all pupils attain the 'essential curriculum core'.
8. *Monitoring to record the attainment of pupils who are 'ready to progress'*
This feature affirms the need for school systems to monitor pupil learning but also focuses attention on the threshold criterion of ready to progress.

¹⁰⁸ Ofsted, (2011). *Ofsted New School Inspection Framework*. (London: Ofsted).
<http://www.ofsted.gov.uk/resources/common-inspection-framework-2012>.

¹⁰⁹ DfE, (2011). *Review of Teachers' Standards – First Report*. (London: DfE).

¹¹⁰ As explained in Oates, T., (2010). *Could do better: Using international comparisons to refine the National Curriculum in England*. (Cambridge Assessment).

¹¹¹ This statement is not a naive suggestion that denies that abilities are distributed or indeed, that ignores the significance of genetic inheritance (though the issues are extremely complex – see Hayden, E. C. (2010). Human Genome at Ten: Life is Complicated, *Nature*, 464, pp 664-667). Rather, it is a statement of educational commitment to the capacity of all humans to develop further both by themselves, and with the support of others. Whilst acknowledging nature, it asserts the role of nurture.

¹¹² This works because the expectations of parents, teachers, siblings and peers have a direct influence on the ways in which learners make sense of their own learning experiences. There is an extensive literature on attribution theory for instance, and on 'learning disposition' (for a discussion of this literature in relation to the National Curriculum in England, see Pollard, A. and Triggs, P. (2000). *What Pupils Say*. (London: Continuum), Chapter 13)

¹¹³ This factor consistently achieves one of the strongest statistical effects in studies of the efficacy of different factors in teaching. The point is strongly made by Hattie, J. (2009). *Visible Learning: A Synthesis of 800 Meta-analyses Relating to Achievement*. (London: Routledge). The title and argument of Hattie's book also reinforces points 3 and 4 above about the need for tangible explicitness in teaching, learning and curriculum.

9. *Provision of pupil support to maintain progress*

This dimension clarifies the responsibility of each school to provide support as needed to enable pupils, as far as possible, to progress with their peers.

10. *Engagement of parents and carers in authentic learning*¹¹⁴

The point here is that those in a position to support pupil learning should have direct access to tangible information on which to base their contribution.

8.20 These dimensions resonate with the Economic and Social Research Council's Teaching and Learning Research Programme's principles of effective teaching and learning¹¹⁵ and reflect many of the comments made by international commentators.¹¹⁶ They relate to the international literature on effective pedagogy¹¹⁷ and articulate a key conclusion of the Cambridge Primary Review that there is a major convergence in understanding of pedagogy that prioritises the significance of 'classroom interaction'¹¹⁸ and use by teachers of a wide repertoire of teaching approaches. In England, a group of teachers and researchers who describe their approach as 'learning without limits'¹¹⁹ have begun to demonstrate that this kind of approach is both practically feasible and educationally justified.¹²⁰

What issues arise for pupils?

8.21 There are issues regarding 'stretch and challenge' for those pupils who, for a particular body of content, grasp material more swiftly than others. There are different responses to this in different national settings, but frequently there is a focus on additional activities that allow greater application and practice, additional topic study within the same area of content, and engagement in demonstration and discussion with others (often vital for consolidation of learning and identification of misunderstanding and misconception). Additional tutoring is employed in some settings, but it is important even in systems in which tutoring is widespread. These systems achieve comparatively low spread at the end of primary education, a factor vital in a high proportion of pupils being well positioned to make good use of more intensive subject-based provision in secondary schooling.

8.22 Specific provision for pupils with learning difficulties is important – with the aim, wherever possible, of enabling them to continue to progress with their cohort and peers. In the review's Call for Evidence, 38% of respondents mentioned in open responses that reasonable expectations of attainment would vary considerably according to the nature of a

¹¹⁴ See, for instance, Hughes, M., (2006). Home-school knowledge exchange, *Educational Review*, 58(4), 385-487 or the summaries at <http://www.tlrp.org/proj/phase11/phase2e.html>.

¹¹⁵ James, M. and Pollard, A., (2012). *Principles for Effective Pedagogy: International responses to evidence from the UK's Teaching and Learning Research Programme*. (Abingdon: Routledge). (see www.tlrp.org)

¹¹⁶ See the reference above for discussion of these by researchers from Singapore, Belgium, Japan, Germany, Switzerland and Canada.

¹¹⁷ Hattie, J., (2009). *Visible Learning: A Synthesis of 800 Meta-analyses Relating to Achievement*. (London: Routledge).

¹¹⁸ Alexander, R. (ed) (2010). *Children, their World, their Education: final report and recommendations of the Cambridge Primary Review*. (London: Routledge), Chapter 15.

¹¹⁹ By 'learning without limits' they mean that they teach from the starting premise that all pupils are capable of learning and that intelligence itself can be learned. They do not assume that anything called 'fixed ability' imposes limits on learning. Thus they have high expectations for all and attempt to put in place the kinds of support that help pupils to achieve highly.

¹²⁰ See Hart, S., Dixon, A., Drummond, M. J. and McIntyre, D., (2004). *Learning Without Limits*. (Maidenhead: Open University Press); Swann, M., Peacock, A., Hart, S. and Drummond, M. J., (2012). *Creating Learning Without Limits*. (Maidenhead: Open University Press).

pupil's needs and disability.¹²¹ The Expert Panel consulted Special Educational Needs and Disabilities (SEND) specialists through stakeholder meetings. In these, a concern was expressed about the means of assessing children and measuring their progress. There was no desire to halt the move towards inclusion, but it was thought unhelpful to assess and measure progress of some children with SEND against current criteria (National Curriculum Levels and Performance scales).¹²² These representatives thought that: there is a need for something more flexible that recognises and assesses individual progress; that assessment should focus on successes rather than being grounded in failure; and a teacher's narrative judgement should be used in assessments of a pupil's progress. These views cohere with our notion of a revised model that focuses on inclusion, mastery and progress. However, more work needs to be done around these issues, both with respect to children with learning difficulties and those regarded as high attainers.

What are the implications for assessment?

8.23 The approach to progression that we are proposing carries implications for assessment, since the purpose of statutory assessment would change from assigning a 'best fit' level to each pupil to tracking which elements of the curriculum they have adequately achieved and those which require more attention.

8.24 For the reasons we set out in the previous chapter, the focus of 'standard attained' should be on these specific elements, rather than a generalised notion of a level. In plain language, all assessment and other processes should bring people back to the content of the curriculum (and the extent to which it has been taught and learned), instead of focusing on abstracted and arbitrary expressions of the curriculum such as 'levels'. We believe that it is vital for all assessment, up to the point of public examinations, to be focused on which specific elements of the curriculum an individual has deeply understood and which they have not. As the research on feedback shows, summary reporting in the form of grades or levels is too general to unlock parental support for learning, for effective targeting of learning support, or for genuine recognition of the strengths and weaknesses of schools' programmes.¹²³ In line with Early Years Foundation Stage reporting, this suggests more detailed profiling of students' attainment. There must be great care to avoid the problems of the past regarding development of highly cumbersome and bureaucratic assessment and reporting arrangements. However, we believe that constant assessment to levels is itself over-burdensome,¹²⁴ obscures the genuine strengths and weaknesses in a pupil's attainment, obscures parental understanding of the areas in which they might best support

¹²¹ DfE, (2011). *National Curriculum Review Call for Evidence Summary Report* (see response to 'Q25c How do you think the needs of pupils with special educational needs and disability (SEND) should be addressed through the National Curriculum?'). (London: DfE).

¹²² The use of Performance scales (P scales) is statutory when reporting attainment for pupils with special educational needs who are working below level 1 of the National Curriculum. They are used at the end of Key Stages 1 - 3 for reporting teacher assessment in English, mathematics and science. P scales are also used for reporting teacher assessment to parents or persons with parental responsibility in other National Curriculum subjects. P scales must only be used when assessing children with special educational needs.

¹²³ Kluger, A. N., & DeNisi, A., (1996). The effects of feedback interventions on performance: a historical review, a meta-analysis, and a preliminary feedback intervention theory. *Psychological Bulletin*, 119(2), 254-284; Hattie, J., & Timperley, H., (2007). The power of feedback. *Review of Educational Research*, 77(1), 81-112.

¹²⁴ The original intention was that summary levels should only be ascribed at the ends of key stages as a result of teachers reviewing pupils' achievement over the key stage, together with test results where applicable. However, teachers have come to use NC levels (and sub-levels) more frequently, including for single pieces of work. See Mansell, W., James, M. and the ARG., (2009). *Assessment in Schools: Fit for purpose?* (London: ESRC TLRP). www.tlrp.org.

their child's learning, and likewise, weakens teachers' clear understanding and identification of pupils' specific weaknesses or misunderstandings.

8.25 We are not suggesting any change to GCSEs, beyond aligning syllabus content and criteria with the new National Curriculum Programmes of Study where appropriate. However, if having 'high expectations for all' is successful then we would expect results not to exhibit the bell-curve of normal distribution, but a skewed curve where the majority achieve at the higher end. This of course, will have consequences, especially for selection to post-16 courses, which will need to be thought through carefully.

What are the implications for accountability?

8.26 Reporting, according to our suggested model, could be based on a 'ready to progress' measure broken down into key areas of subjects. This does not mean that excellence is penalised or discouraged, but it does focus on an essential weakness in our system, namely, that current 'generalised' reporting using levels obscures the fact that too great a proportion of pupils fail to attain elements of the curriculum that are vital for the next phase of their education. An alternative measure could also be used for reviewing school and programme performance, based on the proportion of pupils who are 'ready to progress' in core subjects.

8.27 Performance tables could be constructed on the basis of the proportions of pupils in any cohort having reached the 'ready to progress' level at the end of the key stage (i.e. every two years, if our earlier recommendations are accepted). Of course there are a range of subsidiary issues that would need to be considered. However, the proposition holds the potential to make a simpler system that is also more valid. It would also preserve the importance of teachers' ongoing assessment in relation to specific learning objectives, whilst providing concrete information for parents/carers and receiving teachers.

What consultation is necessary?

8.28 We recommend that alternatives to the established, level-based model of progression in primary schools should be fully explored in further consultation. We commend for consideration the approach that we have outlined. Given the extent to which it builds on existing Government policy and aspiration, its potential in the English context should be seriously considered.

8.29 As indicated above, this model would combine well with National Curriculum specifications that emphasise 'fewer things in greater depth'. We recognise though that this would have substantial implications for assessment. A new model would need to be developed to complement the revised National Curriculum and assessment specifications for the primary phase in England.

Chapter 9: Oral Language and its Development within the National Curriculum

9.1 There is a compelling body of evidence that highlights a connection between oral development, cognitive development and educational attainment.¹²⁵ Over the past four decades successive reviews, enquiries and development projects have also explored the crucial nature of oral capability within education.¹²⁶

9.2 We are strongly of the view that the development of oral language should be a strong feature of any new National Curriculum. There are three particular reasons for this.

9.3 First, we believe that appropriate provision for the development of oral language would improve overall levels of attainment. The evidence suggests that curricula that are rich in provision for language and conceptual development have beneficial effects on cognition and reasoning, and thus for performance in key domains such as mathematics. Speech and language capabilities are strong predictors of school attainment and of later employability.

9.4 Second, we believe that new provision could reduce the spread of attainment. In England, the range of attainment at age 11 is wider than in many high-performing jurisdictions and average attainment lower. If we are to decrease this spread and increase overall attainment, it is absolutely essential that poor language and communication skills are tackled. This can only occur through language use in appropriately structured activities.

9.5 Third, and more specifically in relation to basic skills, we are persuaded that oral language is inextricably linked to both word reading skills and to reading comprehension.¹²⁷ This works through the development of phonological awareness, oral vocabulary and syntactic knowledge. Early provision in the Early Years Foundation Stage and at Key Stage 1, whilst clearly essential, is not sufficient.

9.6 In our view therefore, language enrichment work across the curriculum should continue throughout the period of compulsory education.¹²⁸ In the primary years, the development of

¹²⁵ For influential studies, see Brown, A. L. and Palincsar, A. S., (1989). Guided cooperative learning and individual knowledge acquisition in L. B. Resnick (ed) *Knowing, Learning and Instruction*, (Hillsdale, NJ: Lawrence Erlbaum); Alexander, R., (2008). *Towards Dialogic Teaching: rethinking classroom talk*. (York: Dialogos); Mercer, N. and Littlejohn, K., (2007). *Dialogue and the Development of Children's Thinking*. (London: Routledge); Howe, C & Mercer, N., (2007). *Children's social development, peer interaction and classroom learning* (Cambridge Primary Review Research survey 2/1b) (Cambridge: University of Cambridge Faculty of Education); Fisher, D, Frey, N & Rothenburg, C., (2008). *Content-area conversations* (Association for Supervision and Curriculum Development); Michaels, S., O'Conner, C., Hall, M.W. & Resnick, L.B., (2002) *Accountable talk: Classroom conversation that works* (CD-ROM) (Institute for Learning); Nystrand, M., (1997). *Opening dialogue: Understanding the dynamics of language and learning in the English classroom*. (Teachers College Press).

¹²⁶ See, in particular, DES (1975). *A Language for Life (the Bullock Report)*. (London: HMSO) and Norman, K. (ed) (1992) *Thinking Voices: The Work of the National Oracy Project*. (London: Hodder & Stoughton). For contemporary documentation of evidence and its practical implications, see the work of The Communication Trust, (2008). *Speech, Language and Communication Information for Primary Schools*; The Communication Trust, (2009). *Speech, Language and Communication Information for Secondary Schools*; The Communication Trust, (2009). *Speech, Language and Communication Information and the Children's Workforce*. Available at www.thecommunicationtrust.org.uk.

¹²⁷ Gough, P. & Tunmer, W., (1986). *The Simple View of Reading*. (Lippincott Williams & Wilkins) expands on both of these dimensions of oral language.

¹²⁸ See also Gross, J., (2010). *The case for giving oral language skills a place in the revised National Curriculum*, submission to the National Curriculum review, September 2010.

oral language is also vital in relation to learning of both reading and writing,¹²⁹ enhancing vocabulary and syntactic knowledge. Beyond this, it is essential for helping teachers to structure learning, to enable pupils to receive comment on their ideas and understanding, to make pupils' own thinking an object of personal reflection and learning, and to develop specific skills of presentation and oration.

9.7 Whilst the rationale is clear, the best way of making such provision in terms of curricular requirements is not so straightforward.

9.8 The implication of our understanding of the significance of oracy is that, whilst it should find a particular place within the National Curriculum for English, it should also be promoted more widely as an integral feature of *all* subjects. Encouraging higher levels of quality discourse and its associated cognitive development is not solely an issue for the subject of English.

9.9 Past versions of the National Curriculum in England have not, in our view, focused sufficiently on this issue – in particular, in respect of how to set out an appropriate model of progression for pupils at each key stage. We have considered other curricula in this respect; such as E.D Hirsch's Core Knowledge Curriculum, and have also been unconvinced that such progression has been achieved. However, a strong set of proposals¹³⁰ appears to have been developed by The Communication Trust. This work draws on an extensive review of research by Professor Marilyn Nippold.¹³¹ We believe that strong provision should be made for oracy across the curriculum as a whole and throughout the years of schooling.

9.10 There are a number of possible ways of making such provision.

In overarching National Curriculum statements:

The most obvious strategy is simply to include a high level, overarching statement that clearly promotes the significance of oral communication across the whole National Curriculum. This could be achieved through a statement of curriculum aims. However, we do not think such an approach would be effective, in isolation, unless it were reinforced across and within the other instruments of the National Curriculum.

Within the English Programme of Study:

An overarching statement could be introduced covering the whole English Programme of Study. Discrete 'speaking' and 'listening' strands could be retained (as in the 2007 and 1999 National Curriculum documents), or such provision could be reorganised into new combinations of 'speaking and writing' and 'reading and listening'. Such provision must draw on well-evidenced content elements and progression in oral development.

Within the Programmes of Study for all core and foundation subjects:

A statement could be introduced about provision for oral language development within each subject. Examples of application could be incorporated into each Programme of Study, focused on appropriate subject-specific elements of each

¹²⁹ For example, Biancarosa, C., & Snow, C. E., (2006). *Reading next – A vision for action and research in middle and high school literacy: A report to Carnegie Corporation of New York* (2nd ed). (Washington, DC: Alliance for Excellent Education).

¹³⁰ The Communication Trust, (2011). *Universally Speaking – the ages and stages of children's communication development from 5 to 11* (London: The Communication Trust); The Communication Trust *Universally Speaking – the ages and stages of children's communication development from 11 to 18*, (London: The Communication Trust.).

¹³¹ Nippold, M., (1998). *Later language development: the school age and adolescent years*. (Austin, Texas: Pro-Ed).

subject.

By identifying communication and language as a new subject within the Basic Curriculum:

This approach would require schools to make provision for language development, but would also invite them to exercise their autonomous judgement about appropriate provision. However, it would also generate a new curriculum subject. This might be considered but, given our overarching goal of lightening curriculum prescription, this is not our recommendation at this time.

9.11 We are aware of the limits and problems of cross-curriculum delivery of 'language'.¹³² We believe therefore that each of the first three strategies listed above has a role to play in a multi-layered approach to this extremely important area of curriculum provision. Additionally, we would caution that effective implementation in the classroom is likely to require professional development and support.

9.12 We are aware of and support the pedagogic significance of language and other forms of dialogue in classroom practice across the curriculum. However, this is not the direct focus of this report on a framework for the National Curriculum.

¹³² Marland, M., (1997). *Language Across the Curriculum*. (London: Heinemann Educational Books); Hayward, G., (2004). *From core skills to key skills: fast forward or back to the future? Oxford Review of Education*, Vol 30 (1), pp117-145.

Chapter 10: Risks

10.1 In discharging our responsibility to advise on the National Curriculum review as a whole, there are three particular risks that we identified at the beginning of the process and drew to the attention of the Department. These have been recognised and the first, in particular, has been mitigated somewhat by an extension of time to consider available evidence and to produce and consult on draft Programmes of Study. However, we believe they should continue to be given significant attention.

The pace of the review

10.2 As explained in the introduction, we believe it is right that there should be a period of engagement/consultation on the key decisions that have the potential to radically change the National Curriculum, beyond changes to the content. This is important given the pace of the review. In Hong Kong, a review process extended over a decade.¹³³ This is much longer than we would ever suggest, but is nonetheless of interest. The major risks of moving at the speed intended in England are as follows:

1. It may be hard to achieve public and professional acceptance of overall purposes and eventual proposals without extensive and authentic provision for public discussion. This is not just concerned with simple consensus-building but with effecting genuine change in school provision, to match the underlying aims of the National Curriculum review.
2. Technical aspects of the new National Curriculum may be difficult to perfect because of the time needed to integrate knowledge and expertise on subjects, teaching, learning, assessment, etc and to produce appropriate Programmes of Study and Attainment Targets. Further, it should not be assumed that the development of refined and condensed Programmes of Study for non-core subjects will require less time than for core subjects. Indeed, they may require more time due to the need to ensure that only the essence of the subject is incorporated.
3. Achieving appropriate alignment of 'control factors' may be more difficult with many key decisions being made in parallel. Qualifications, assessment, teacher quality and supply, inspection and resourcing should all be aligned with curriculum objectives. The process of multiple, simultaneous and semi-autonomous reviews makes this challenging.

Curriculum coherence

10.3 If a higher level of curriculum coherence (in Schmidt and Prawat's sense¹³⁴) is not achieved this runs the risk of delivering a revised National Curriculum but without substantial impact on standards of attainment. We have contributed, where possible, to discussions on factors that will bear on the success of the implementation of the new National Curriculum. We have been impressed with the range of activity in hand within the Department in respect of the list of 'control factors' that form part of the principles for this review. Some issues on which we have already acted are indicated below:

1. **Inspection:** Following discussions with Her Majesty's Chief Inspector (HMCI) and others, we wrote to the Secretary of State to recommend that the prominence of

¹³³ Kwok, S., (2008). *New Horizons in Cultivation of Talents: a decade of education in Hong Kong*. (Hong Kong: Education Bureau).

¹³⁴ Schmidt W & Prawat R., (2006). *Curriculum Coherence and national control of education: issue or non-issue?* (Journal of Curriculum Studies vol38 no6).

inspection of the breadth and balance of the school curriculum should be very significantly increased in the new Inspection Framework. We welcome recognition of the need for breadth and balance in Ofsted's new draft School Inspection Framework.

2. **Assessment at Key Stage 2:** We met with members of the Bew review panel and contributed to their deliberations. A welcome outcome has been the awareness shown in the Bew Review¹³⁵ of the work of the National Curriculum review, which holds open the opportunity to improve coherence.
3. **Early Years Foundation Stage:** A member of the Expert Panel contributed to the deliberations of the Tickell Review of the Early Years Foundation Stage.¹³⁶ Provision for improved continuity in the transition to Key Stage 1 and for progression in personal, social, health and economic (PSHE) education has been seeded, subject to acceptance of the Early Years Foundation Stage recommendations and the outcome of the Department's review of PSHE education.
4. **Personal, social, health and economic (PSHE) education:** A Department for Education led review of PSHE education¹³⁷ is in progress and a member of the Expert Panel has contributed to Departmental thinking. In particular, suggestions have been made concerning the links between PSHE and holistic educational aims and in relation to progression in provision for PSHE through each key stage.
5. **Teachers' Standards:** We contributed a number of observations to drafts of the new teachers' standards.¹³⁸ In particular, we commented on curriculum issues and the importance of complementing subject knowledge with understanding of pupil learning. We also made suggestions for the further development of the text in relation to expectations, teacher-pupil dialogue and feedback – factors that make an exceptional contribution to outcomes according to international evidence.
6. **Primary workforce curriculum capacity:** We are aware of the Department's consideration of primary workforce capacity, which includes a focus on capacity for subject teaching at Key Stage 2.

10.4 We recommend continuing attention to the issue of coherence, with attention to the educational principles underlying related forms of provision.

The professional response

10.5 We fully endorse the Government's intention to free teachers from unnecessary centralised prescription. However, we are also aware that this will be challenging for many in the profession. Ministerial speeches and other forms of leadership have been, and will remain, very significant in redefining roles and establishing new expectations.

¹³⁵ Bew, P., (2011). *Independent Review of Key Stage 2 testing, assessment and accountability – Final Report*. (London: DfE).

<https://www.education.gov.uk/publications/standard/publicationDetail/Page1/DFE-00068-2011>.

¹³⁶ Tickell, C., (2011). *The Tickell Review – The Early Years: Foundations for Life, Health and Learning*. (London: DfE). <http://www.education.gov.uk/tickellreview>.

¹³⁷ DfE, (2011). *Review of PSHE Education* (London: DfE) <http://www.education.gov.uk/inthenews/inthenews/a00192561/review-of-pshe-education>.

¹³⁸ DfE, (2011). *Review of Teachers' Standards – First Report*. (London: DfE). <http://www.education.gov.uk/schools/teachingandlearning/reviewofstandards/a00192172/review-of-teachers-standards-first-report>.

10.6 There is a possibility that the removal of unnecessary prescription could enable minimalist approaches to curriculum provision or, indeed, that weak framing could inadvertently lead to patterns of inequality. We have tried to offset these risks by proposing a particular model of progression in primary education, by delineating powerful knowledge in all subjects, and by proposing that breadth and balance should be secured through curriculum aims and proposed inspection arrangements.

10.7 At the same time, the nature and extent of the support that is available to teachers, schools, parents and governors will be important. At a time when resources are likely to continue to be scarce, it is essential that provision is targeted to help stakeholders become as self-sufficient and mutually supportive as possible. We note that steps of this sort are under consideration by the Training and Development Agency for Schools and the National College for School Leadership. We would add that the provision of high quality evidence, analysis and knowledge about educational issues has a crucial contribution to make, as recommended by the Strategic Forum for Research in Education.¹³⁹

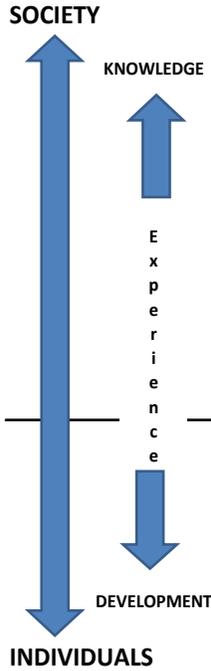
10.8 In freeing schools from prescription, it is crucial that they are able to rise to the new challenge. There are some risks here, which we have attempted to balance in forming our recommendations.

¹³⁹ The SFRE (www.sfre.ac.uk) brought together practitioners, policy-makers and researchers for sustained discussions over two years on the effectiveness of current organisation for the production and use of evidence in education. Its final report is: Pollard, A. and Oancea, A., (2010). *Unlocking Learning: Towards Evidence-informed Policy and Practice in Education*. (London: BERA).

Conclusion

This report is wide-ranging in its scope and implications. We have attempted to be true to our initial injunction, in Chapter 1, to view specific elements of the curriculum in terms of the whole and to consider how best to facilitate a constructive interaction of subject knowledge and individual development.

The diagram overleaf represents our proposals for the overall framework of the National Curriculum for the future, bearing in mind key educational imperatives for the nation.



FOUNDATION STAGE	KS1	LOWER KS2	UPPER KS2	KS3	KS4	
	RE ICT D&T	RE ICT D&T	RE ICT D&T	RE ICT D&T Careers Citizenship	RE ICT D&T Careers Citizenship The Arts	BASIC CURRICULUM BASIC CURRICULUM BASIC CURRICULUM BASIC CURRICULUM BASIC CURRICULUM
SPECIFIC AREAS OF LEARNING						
Expressive Arts and Design Exploring media and materials Being imaginative	Art&Design Music	Art&Design Music	Art&Design Music	Art&Design Music		FOUNDATION SUBJECT OF NC FOUNDATION SUBJECT OF NC
Understanding the World						
The World	Geography	MFL? Geography	MFL Geography	MFL Geography	MFL Geography	FOUNDATION SUBJECT OF NC FOUNDATION SUBJECT OF NC FOUNDATION SUBJECT OF NC
People and community	History	History	History	History	History	
Technology	Science	Science	Science	Science	Science	CORE SUBJECT OF NC
Mathematics Numbers Space, shape, measures	Mathematics	Mathematics	Mathematics	Mathematics	Mathematics	CORE SUBJECT OF NC
Literacy Reading Writing	English	English	English	English	English	CORE SUBJECT OF NC
PRIME AREAS OF LEARNING						
Communication and Language Speaking Listening and attention Understanding	Oral development across subjects	CROSS-CURRICULAR				
Physical Development Moving and handling Health and self-care	Physical Education	Physical Education	Physical Education	Physical Education	Physical Education	FOUNDATION SUBJECT OF NC
Personal, Social and Emotional Dev. Self-confidence and self-awareness Managing feelings and behaviour Making relationships	PSHE	PSHE	PSHE	PSHE	PSHE	BASIC CURRICULUM
THE LOCAL CURRICULUM						
'Ensuring the curriculum as a whole is motivating and meaningful to pupils'						LOCAL CURRICULUM
'Providing scope for the development of particular interests and curricular innovation for schools'						LOCAL CURRICULUM

The detail of the framework on the previous page has been elaborated in the preceding chapters, but some particular features can be highlighted at this point.

First, the two key educational elements stemming from 'knowledge' and 'development' are represented above and below the horizontal line. This builds on the argument set out in Chapter 1 foregrounding fundamental educational processes. In addition to the crucial curricular subjects and elements, oral language development across subjects, physical education and personal, social, health and economic education (PSHE) are anticipated to build from the Foundation Stage and retain a significant place in school provision at all ages.

Second, the ways in which these subjects and elements are prioritised changes in respect of the age, or key stage, of the pupil. Thus the emphasis in the Early Years Foundation Stage is quite different to that in Lower Key Stage 2, with Key Stage 1 providing a crucial bridge. English, mathematics, science, physical education, PSHE and oral language development across subjects are thus seen as being the particularly significant elements of Key Stage 1, with science growing in emphasis from Lower Key Stage 2. During Key Stage 3 and Key Stage 4, continuity in key subjects and the addition of more specific areas of learning is suggested, whilst the importance of factors associated with personal development is affirmed.

Third, breadth and balance is preserved across the curriculum until the end of Key Stage 4. Thus we recommend the retention of the arts (including music) and the teaching of modern foreign languages within statutory provision and their extension to Key Stage 4 as well as, in the case of modern foreign languages, to upper Key Stage 2. We do however expect some subjects to be described more fully than others in their Programmes of Study.

Fourth, it is proposed to lighten the curriculum by reclassifying to the Basic Curriculum (as opposed to removing the statutory requirement) a number of areas of learning that once generated detailed statutory requirements on schools. This would mean that schools will be free to exercise local judgement on the specific provision that is made.

Finally, the model can be considered in relation to the Wolf review on vocational education, which criticised the certification of a wide range of developmental skills and capabilities. The Government has accepted the Wolf recommendations such that certification will now focus on knowledge-based subject capabilities. This will not, however, diminish the educational significance of personal development. We anticipate that such issues will continue to inform provision within the school curriculum as a whole.

In conclusion, we welcome the Secretary of State's decision to enable further time for the development of the new National Curriculum and are pleased to be able to offer the proposals and recommendations contained in this report as a focus for discussion amongst stakeholders.

Annexes

Annex 1

Tables showing the inclusion of aims, philosophy and functions/tasks in curriculum subject frameworks in high-performing jurisdictions

Table A - Mathematics Aims/objectives, philosophy/principles and functions/tasks

Comparator System	Aims, Philosophy and Functions		
	Aims/Objectives	Philosophy/Principles	Functions/Tasks
Finland	*		*
Flemish Belgium	*		
Hong Kong	*		
Singapore	*	*	
Massachusetts (USA)		*	

For the mathematics curriculum and syllabus documents examined, functions and tasks were only explicitly mentioned in the Finnish core curriculum, and philosophy/principles were only explicitly present in the Singapore and Massachusetts (USA) curricula. Aims/objectives were a common feature, being explicitly mentioned in four out of the five examined sets of comparator curricula.

Table B - English Aims/objectives, philosophy/principles and functions/tasks

Comparator System	Aims, Philosophy and Functions		
	Aims/Objectives	Philosophy/Principles	Functions/Tasks
Australia, New South Wales	*		*
Canada, Alberta	*		
New Zealand	*		
Singapore	*	*	*
Massachusetts (USA)		*	

The inclusion of aims/objectives in comparator system curricula for the subject of English is common, with four out of five mentioning either or both. Functions/tasks and philosophy/principles are less common, and the English language arts syllabus documents for the US state of Massachusetts only includes a set of principles.

Table C - Science Aims/objectives, philosophy/principles and functions/tasks

Comparator System	Aims, Philosophy and Functions		
	Aims/Objectives	Philosophy/Principles	Functions/Tasks
Australia, Victoria			
Canada, Alberta			
Elementary		*	
Junior High	*	*	
Hong Kong	*		
Singapore			
Primary	*	*	
Lower Secondary	*	*	
Massachusetts (USA)		*	

Table C above details the inclusion of aims/objectives, philosophy/principles and functions/tasks for the comparator systems science curricula and syllabus documents. As can be seen in the table, none of the documents included any reference to functions/tasks. In addition, only the Singaporean documentation, and the Junior High documentation for Canada (Alberta), mentioned both aims/objectives and philosophy/principles.

Examples of curricula aims and objectives of high-performing jurisdictions

This annex examines some of the curricula aims and objectives of high-performing jurisdictions and focuses in detail on the specific curricula of Finland, Hong Kong and New Zealand. The curricula discussed may not have been in use, or have been in use for substantial periods of time when students in these jurisdictions participated in the most recent rounds of PISA, TIMSS and PIRLS. They are included to demonstrate recent examples of curricula aims and objectives.

Finland

The 2004 national core curriculum in Finland includes a set of underlying values of education, along with a mission. The underlying values are as follows: “human rights, equality, democracy, natural diversity, preservation of environmental viability, and the endorsement of multiculturalism. Basic education promotes responsibility, a sense of community, and respect for the rights and freedom of the individual”.¹⁴⁰ The mission of basic education has both an educational and instructional element: “its task on the one hand is to offer individuals the chance to acquire a general education and complete their educational obligations; and, on the other, to furnish society with a tool for developing educational capital and enhancing equality and sense of community”.¹⁴¹

Hong Kong

The Curriculum Development Council in Hong Kong published a basic education curriculum guide in 2002 which included a set of aims of the school curriculum, along with a set of student learning goals and a set of guiding principles for curriculum development. The overall aim of the school curriculum is to provide “all students with essential life-long learning experiences for whole-person development in the domains of ethics, intellect, physical development, social skills and aesthetics, according to individual potential, so that all students can become active, responsible and contributing members of society, the nation and the world”.¹⁴² The seven learning goals set out a series of goals for students to achieve in 10 years time from the date of publication, and are as follows: responsibility; national identity; habit of reading; language skills; learning skills; breadth of knowledge and healthy lifestyle.

The basic education curriculum guide also includes a set of eight principles that are intended to help guide the development of school curricula. In brief, these are as follows: to support students to learn how to learn; all students have the ability to learn and should be provided with essential learning experiences; a learner-focused approach should be adopted, with diversified learning, teaching and assessment strategies for the different needs and interests of students; development strategies should be built on the strengths of students, teachers, schools and the wider

¹⁴⁰ Finnish National Board of Education, (2004). *National Core Curriculum for Basic Education 2004*. (Helsinki: Finnish National Board of Education) p12.

¹⁴¹ Finnish National Board of Education, (2004). *National Core Curriculum for Basic Education 2004*. (Helsinki: Finnish National Board of Education) p12.

¹⁴² The Curriculum Development Council, (2002). *Overview of the Curriculum Reform – Reflecting on Strengths and Getting Ready for Action*. p2 in The Curriculum Development Council (2002). *Basic Education Curriculum Guide: Building on Strengths (Primary 1-Secondary 3)* http://cd1.edb.hkedcity.net/cd/EN/Content_2909/BE_Eng.pdf.

community; practices should be adopted in order to achieve balance between different purposes and conflicting interests and views; schools are afforded flexibility on the school-based curriculum to cater to the needs of their students; curriculum development should be a continuous improvement process; and the importance of positive thinking, patience, celebration of small successes and tolerance of ambiguity in order to ensure change and improvement are accepted and sustained.¹⁴³

New Zealand

The 2007 New Zealand Curriculum includes an overall vision, and sets of principles and values. The vision outlines what is hoped to be achieved for young people through the curriculum, with a focus outside of school and education, for example a vision for young people “who will be creative, energetic, and enterprising”.¹⁴⁴ The principles in the curriculum “embody beliefs about what is important and desirable in school curriculum – nationally and locally. They should underpin all school decision making”.¹⁴⁵ The curriculum states that all curricula should be consistent with the eight principles, which are as follows: high expectations; cultural diversity; inclusion; coherence; future focus; treaty of Waitangi; learning to learn; and community engagement.

The principles differ from values in that the principles relate to how a curriculum is formalised within a school, whereas values are part of the everyday curriculum. The curriculum lists a set of values that students will be encouraged to value, along with learning about and developing ability in other areas surrounding values through their learning experiences. An example of what students would be encouraged to value is “excellence, by aiming high and by persevering in the face of difficulties”; through their learning experiences, students are expected to learn about “the values of other groups and cultures”; and students are expected, through their learning experiences, to develop their ability to “make ethical decisions and act on them”.¹⁴⁶

¹⁴³ The Curriculum Development Council, (2002). *Overview of the Curriculum Reform – Reflecting on Strengths and Getting Ready for Action* in The Curriculum Development Council (2002). *Basic Education Curriculum Guide: Building on Strengths (Primary 1- Secondary 3)* http://cd1.edb.hkedcity.net/cd/EN/Content_2909/BE_Eng.pdf.

¹⁴⁴ Ministry of Education, (2007). *The New Zealand Curriculum for English-medium teaching and learning in years 1-13*. (Wellington: Ministry of Education). p8.

¹⁴⁵ Ministry of Education, (2007). *The New Zealand Curriculum for English-medium teaching and learning in years 1-13* (Wellington: Ministry of Education) p9.

¹⁴⁶ Ministry of Education, (2007). *The New Zealand Curriculum for English-medium teaching and learning in years 1-13* (Wellington: Ministry of Education) p10.

Annex 3

Table showing subjects in the compulsory phase curriculum as mapped against England¹⁴⁷

Country	Mother tongue	Maths	Science	Geog	History	MFL	DT	PE	Art	Music	ICT	Civics	Other
England	5-16	5-16	5-16 ⁱ	5-14	5-14	11-14	5-14	5-16	5-14 ⁱⁱ	5-14	5-16	11-16 ⁱⁱⁱ	Religious education, 5-16 Careers education and guidance, 11-16 Sex education 11-16 Work-related learning, 14-16
Australia	6-16	6-16	6-16	6-16 ^{iv}	6-16	6-16 ^{iv}	6-16 ^v	6-16 ^v	6-16 ^{iv}	6-16 ^{iv}	6-16 ^v	6-16 ^v	Economics, 6-16 Business 6-16 Business 6-16 Business 6-16 ^v
Australia - Victoria^{vi}	5-16	5-16	8-16	10-16 ^{vii}	10-16 ^{vii}	10-16	8-16 ^{viii}	5-16 ^{ix}	5-16 ^x	5-16 ^x	6-16	8-16	Economics 10-16 ^{vii} Interpersonal development 5-16 Personal learning, 8-16 Communication, 10-16 Thinking processes, 8-16 Humanities, 8-10
Canada – Alberta	6-16	6-16	6-16			12-15 ^{xi}		6-16 ^{xii}	6-12 ^{xiii}	6-12 ^{xiii}	6-15 ^{xiv}		Social studies, 6-16 Health and life skills, 12-15 Career and life management, 15+

¹⁴⁷ This table uses INCA data to tabulate subjects in the compulsory curriculum of many high-performing countries, mapped against England.

Country	Mother tongue	Maths	Science	Geog	History	MFL	DT	PE	Art	Music	ICT	Civics	Other
Canada – Ontario	6-18	6-18	6-18	6-18 ^{xv}	6-18 ^{xv}	10-18 ^{xvi}		6-18 ^{xvii}	6-18 ^{xviii}	6-18 ^{xviii}		6-12 ^{xix} 14-18	Financial literacy, 9-18 ^{xx} Career studies, 14-18 Social studies. 6-12 ^{xxi}
Finland	7-16	7-16	7-16 ^{xxii}	7-16 ^{xxii}	9-16 ^{xxiii}	9-16		7-16	7-16	7-16		9-16 ^{xxiii}	Religion/ethics, 7-16 Home economics, 9-16 Student counselling, 9-16
France	6-16	6-16	8-16 ^{xxiv}	8-16 ^{xxv}	8-16 ^{xxvi}	7-16	8-14 ^{xxvii}	6-16	6-14 ^{xxviii}	6-14 ^{xxvi} ii	8-15	8-16 ^{xxix}	'Discovering the world', 6-8 Individual support, 15-16
Hungary	6-18	6-18	6-18 ^{xxx}		10-18 ^{xxxi}	9-18 ^{xxxii}	6-14 ^{xxxiii}	6-18	6-16/18	6-16	12-15/18	10-14 ^{xxxiv} 12-13 ^{xxxv} 16-17 ^{xxxvi}	Environment, 6-10 Nature, 10-12 Our earth and environment, 12-16 Class session, 10-18 Dance and drama, 10-12 Ethnography, 10-12 Cinema and media, 13-14 Introduction to philosophy, 17-18 Health, 13-14 Careers/work-related education 14-18
Japan	6-15	6-15	6-15 ^{xxxvii}			10/12-15 ^{xxxviii}		6-15	6-15	6-15			Social studies, 8-15 Moral education, 6- Class/homeroom activities, 6- Integrated study, 8- Homemaking/industrial art, 12-15

Country	Mother tongue	Maths	Science	Geog	History	MFL	DT	PE	Art	Music	ICT	Civics	Other
Korea	6-15	6-15	8-15			8-15		8-15	8-15	8-15		8-15 ^{xxxix}	Disciplined life, 6-8 Intelligent life, 6-8 Pleasant life, 6-8 Orientation programme, 6-8 Practical arts/home economics, 10-15 Social studies, 8-15
New Zealand	5/6-16	5/6-16	5/6-16			5/6-16		5/6-16 ^{xi}	5/6-16				Social science, 5/6-16 Technology, 5/6-16
The Netherlands	4/5-15 ^{xii}	4/5-15				4/5-15		4/5-15	4/5-15 ^{xlii}	4/5-15			Social and environmental studies ^{xliii} Healthy living; social structures ^{xliv} Man and society, 12-15 ^{xlv} Man and nature, 12-15 ^{xlvi}
Singapore	6-16/17 ^{xlvi}	6-16/17	8-16/17 ^{xlvi}	12-14 ^{xlix}	12-14 ^{xlix}	6-16/17 ⁱ	12-14 ^{liii}	6-16/17	6-14 ^{li}	6-16/17		6-16/17 ^{lii}	Humanities ^{lix} Other options: ^{liii} Social studies, 6-14 Health education, 10-12
USA - Mass	5-18	5-18	5-18 ^{liv}	5-18 ^{lv}	5-18 ^{lv}	5-18	5-18 ^{liv}	5-18	5-18 ^{lvi}	5-18 ^{lvi}		5-18 ^{lv}	Economics 5-18 ^{lv} Health, 5-18 ^{lvii} Others ^{lviii}

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- i. England: At age 14-16, science may be taught as combined science or as individual subjects: physics, chemistry and biology.
 - ii. England: Art and design.
 - iii. England: Citizenship and personal, social, health and economic (PSHE) education.
 - iv. Australia: Geography, languages and the arts will be covered by the second phase of curriculum development.

- v. Australia: Economics, business, civics and citizenship, health and physical education, information and communication technology and design and technology will be covered by the third phase of curriculum development. Expected in 2012.
- vi. Australia Victoria: The curriculum is expressed in three inter-related strands: physical, personal and social learning, discipline (subject) based learning, and interdisciplinary learning. The information in this table reflects the content of all three strands.
- vii. Australia Victoria: History, geography and economics are combined as 'humanities' for students aged 8-10.
- viii. Australia Victoria: Design, creativity and technology.
- ix. Australia Victoria: Health and physical education.
- x. Australia Victoria: Combined as 'the arts'.
- xi. Alberta: Where French is studied as an immersion language, study begins at age 6.
- xii. Alberta: Taught as combined health and life skills and physical education at ages 6-12.
- xiii. Alberta: Art and music is a combined curriculum area.
- xiv. Alberta: ICT is infused within core curricula in language arts, mathematics, science and social studies.
- xv. Ontario: Studied as part of social studies until age 12.
- xvi. Ontario: Where French is studied as an immersion language, study begins at age 6.
- xvii. Ontario: Health and physical education.
- xviii. Ontario: Music, visual arts, drama and dance are combined as 'the arts' age 14; music, art, drama, dance are combined to form 'the arts' for students aged 14-18.
- xix. Ontario: As part of social studies.
- xx. Ontario: From September 2011.
- xxi. Ontario: Geography, history and civics are combined to form social studies for children 6 to 12 years old.
- xxii. Finland: In Years 1 – 4, ages 7 - 11, geography, biology, physics and chemistry are taught – with health education - as a combined subject – ‘environment and nature studies’.
- xxiii. Finland: Taught as history and civics.
- xxiv. France: Experimental science and technology for 8 to 11-year-olds, life and earth science for 11 to 12-year-olds, life and earth science and physics/chemistry for 12- to 16-year-olds.
- xxv. France: Geography is part of humanities for 8 to 11 year olds, history/geography/civics for 11 to 12 year olds, and history/geography for 12 to 16 year olds.
- xxvi. France: History is part of humanities for 8 to 11 year olds, history/geography/civics for 11 to 12 year olds, and history/geography for 12 to 16 year olds.
- xxvii. France: As part of experimental science and technology for 8 to 11 year olds, and technology thereafter.
- xxviii. France: Combined as 'the arts'.
- xxix. France: Civics is part of humanities for 8 to 11 year olds, history/geography/civics for 11 to 14 year olds, and civics, legal and social education for 14 to 16 year olds.
- xxx. Hungary: Environment taught from age 6-10, Nature from 10-12, physics from 12-17, biology from 12-14 and from 15-18, and chemistry from 12-16, and our earth and environment from 12-14.
- xxxi. Hungary: History and citizenship ages 10-14.
- xxxii. Hungary: Second foreign language.
- xxxiii. Hungary: Technology and lifestyle.
- xxxiv. Hungary: Sometime taught as history and citizenship.

- xxxv. Hungary: Anthropology and social studies, ethics.
 - xxxvi. Hungary: Social science and ethics.
 - xxxvii. Japan: Life environment studies, ages 6-8.
 - xxxviii. Japan: Recent changes mean that, from the 2011-12 academic year, English is being introduced as a first foreign language for elementary school studies in Years 5 and 6, ages 10-12.
 - xxxix. Korea: Moral education/ethics.
 - xl. New Zealand: Health and physical education.
 - xli. The Netherlands: Dutch and Frisian – in Frisian speaking areas.
 - xl.ii. The Netherlands: Combined to form 'art education' for five to 11 year olds, and 'Art and Culture' for 11 to 15 year olds.
 - xl.iii. The Netherlands: 'social and environmental studies' includes geography, history, science (including biology), citizenship, social and life skills (including road safety).
 - xl.iv. The Netherlands: 'healthy living/social structure' includes geography, history, science (including biology), citizenship, social and life skills (including road safety).
 - xl.v. The Netherlands: 'man and society' consists of 12 core objectives covering asking questions and doing research, placing phenomena in time and space, using sources, the organisation of themes and the ideas of citizenship.
 - xl.vi. The Netherlands: 'man and nature' consists of eight core objectives covering physical, technological and care-related subjects, including living and non-living nature, humans, animals and plants and their relationship to the environment, physical and chemical phenomena, the build and function of the human body, research skills and learning to question, and caring for oneself, others, and the environment.
 - xl.vii. Singapore: A choice of Chinese, Malay or Tamil. For six to 10 year olds this includes health education and information literacy.
 - xl.viii. Singapore: At age 14, students choose at least one of: biology or human and social biology; physics; chemistry; science/integrated science.
 - xl.ix. Singapore: At age 14, students choose at least one of the humanities; literature; geography; history.
 - I. Singapore: English is taught as a foreign language from age 6; another language is an option at age 14.
 - li. Singapore: Art and craft; it is an option from age 14.
 - lii. Singapore: Civic and moral education.
 - lii.iii. Singapore: Other subjects available at age 14 include a third language (French, Japanese, German or Malay language elective); art and crafts; music; fashion and Fabrics; food and nutrition; commerce; principles of accounts; design and technology; and religious knowledge.
 - liv. USA: Massachusetts: Taught as science and technology.
 - lv. USA: Massachusetts: Taught as 'social science/social studies' which includes US and world history, geography, economics, civics and government.
 - lvi. USA: Massachusetts: Combined with dance, music, theatre, and the visual arts as 'the arts'.
 - lvii. USA: Massachusetts: Health includes health education, physical education and family and consumer science education.
- USA: Massachusetts: These subjects can include nutrition; physical education; Massachusetts and labour history; violence prevention; drug, alcohol and tobacco abuse prevention; family life skills; basic career exploration; technology education; computer science and keyboard skills; environmental science and protection; global education and geography; community service learning.

Tables showing the existing and proposed requirements for subjects within the Basic and National Curriculum

For the purpose of comparison with Figure 3 in Chapter 4, the tables below set out the existing and proposed requirements in a similar format – noting that a decision to seek to remove work-related learning from the Basic Curriculum has already been taken.¹⁴⁸

Existing requirement

Subject	KS1	KS2	KS3	KS4
English	✓	✓	✓	✓
Mathematics	✓	✓	✓	✓
Science	✓	✓	✓	✓
Art & design	✓	✓	✓	
Geography	✓	✓	✓	
History	✓	✓	✓	
MFL			✓	
Music	✓	✓	✓	
PE	✓	✓	✓	✓
Citizenship			✓	✓
D&T	✓	✓	✓	
ICT	✓	✓	✓	✓
Careers			✓	✓
Religious education	✓	✓	✓	✓
Sex education			✓	✓
Work-related learning				✓

✓	NC Core subject - detailed Programmes of Study and Attainment Targets
✓	NC Foundation subject - detailed Programmes of Study and Attainment Targets
✓	Basic Curriculum - compulsory curricular requirement but schools determine appropriate specific content
	Not required, but could be taught by schools as part of the Local Curriculum

¹⁴⁸ DfE, (2011) *Wolf Review of Vocational Education – Government Response*. (London: DfE) <https://www.education.gov.uk/publications/standard/publicationDetail/Page1/DFE-00038-2011>. The Government has announced its intention to seek to remove the duty for schools to provide work-related learning in its response to the Wolf review and is currently considering this issue.

Proposed requirement

Subject	KS1	KS2 (Lower)	KS2 (Upper)	KS3	KS4
English	✓	✓	✓	✓	✓
Mathematics	✓	✓	✓	✓	✓
Science	✓	✓	✓	✓	✓
Art & design	✓	✓	✓	✓	
Geography	✓	✓	✓	✓	✓
History	✓	✓	✓	✓	✓
MFL		**	✓	✓	✓
Music	✓	✓	✓	✓	
PE	✓	✓	✓	✓	✓
The Arts (inc. music)					✓*
Citizenship				✓	✓
D&T	✓	✓	✓	✓	✓
ICT	✓	✓	✓	✓	✓
Careers					
Religious education					
Sex education					
Work-related learning					

✓	NC Core subject – detailed Programmes of Study and Attainment Targets
✓	NC Foundation subject – refined and condensed Programmes of Study and minimal or no Attainment Targets
✓	Basic Curriculum – compulsory curricular requirement but schools determine appropriate specific content
	Not required, but could be taught by schools as part of the Local curriculum
	These subjects and areas of learning are currently in the Basic Curriculum and are therefore outside of our remit. We are not recommending changes to how they are specified.

* The arts, at Key Stage 4, would combine art and music but also other aspects of the arts (e.g. dance and drama).

** The optimum age at which to introduce modern foreign language teaching remains a contested matter that requires careful consideration of evidence; this is not yet fully resolved. Further consultation and analysis of evidence is necessary on the question of modern foreign languages in lower Key Stage 2.

Evidence from international surveys (PIRLS, TIMSS and PISA)

	5th percentile	95th percentile	Difference
PIRLS 2006 (reading age 10)			
England	383	673	290
Hong Kong	460	655	195
Singapore	420	672	252

These data in literacy show a high spread for England, with low performance at the 5th percentile – a tail of underachievement.

TIMSS 2007 (science age 10)			
England	403	666	263
Hong Kong	437	659	222
Japan	428	655	227
Singapore	418	727	309

These data in science again show a high spread for England and again display the low performance at the 5th percentile. The results for Singapore do show high spread – but this is explained by very high performance at the 95th percentile.

TIMSS 2007 (science age 14)			
England	393	675	282
Hong Kong	376	648	272
Japan	418	672	254
Korea	420	670	250
Singapore	374	720	346

PISA 2009 (science age 15)			
England	349	673	324
Hong Kong	393	681	288
Japan	361	686	325
Korea	399	665	266
Singapore	362	704	342

In secondary education, the situation changes, with the spread in these systems becoming more closely aligned. This is consistent with the accounts of contrasting models of progression in primary and secondary in Hong Kong and Singapore. In the secondary phase, the higher overall performance attained in primary continues, but the systems begin to manifest higher spread, as selection and ‘routing’ takes place, after the ‘moving all together’ model of primary.

Expert Panel members – pen portraits

Professor Mary James



Professor Mary James is Associate Director of Research for the University of Cambridge, Faculty of Education. She is also President of the British Educational Research Association. Previously she held a Chair in Education at the Institute of Education, University of London, a Readership at Cambridge University and a research fellowship at the Open University. She began her career by teaching English and humanities subjects, for ten years, in secondary schools.

Professor James has 100+ publications that explore the interactions of curriculum, assessment, teaching, learning, teacher development and school leadership. She was the founding editor of the *Curriculum Journal* and is a Trustee of the British Curriculum Foundation. Between 1992 and 1997 she was deputy director of the ESRC's Teaching and Learning Research programme (TLRP), the largest programme of educational research ever funded within the UK. She combined this with her work as director of the TLRP project 'Learning How to Learn'. This large-scale, multi-method project examined the conditions in schools that are necessary to promote independent learning by students across the curriculum. In 2007-08 she held an Economic and Social Research Council programme director's fellowship connected with her TLRP work.

Professor James has a wide knowledge of different approaches to curriculum across different nations. For example, since 2000 she has been an adviser to the Hong Kong Government and the only overseas member of their Curriculum Development Council.

Tim Oates (Chair of the Expert Panel)



Tim Oates joined Cambridge Assessment in May 2006 to spearhead the rapidly growing Assessment Research and Development Division. He was previously at the Qualifications and Curriculum Agency (QCA), where he had been Head of Research and Statistics for most of the last decade.

Mr Oates has produced work which commands national and international respect, including advising on a pan-European 8-level qualifications framework. He has advised the UK Government for many years on both practical matters and assessment policy and is particularly experienced in international use of core knowledge curricula.

He started his career as a research officer at the University of Surrey. He moved to the FE Staff College in 1987 where he helped run the Work-Based Learning project. London University's Institute of Education then appointed him as NCVQ Research Fellow. In 1993 he joined one of the QCA's predecessor bodies, the National Council for Vocational Qualifications, as Head of GNVQ Research and Development. Promotion to Director of Research followed two years later.

Professor Andrew Pollard



Andrew Pollard is Professor of Education at the Institute of Education, University of London and at the Graduate School of Education, University of Bristol. He was Director of the Teaching and Learning Research Programme (TLRP) from 2002-09 and coordinated some 700 researchers in 70 projects, covering all education sectors – from Early Years to Higher Education and Workplace Learning.

Professor Pollard is a former schoolteacher, and his research interests include teaching-learning processes and learner perspectives, as well as the development of evidence-informed classroom practice. He is responsible for a popular textbook and support materials on reflective teaching within primary and secondary schooling. He has worked extensively on the effects of national and institutional policies on learning and co-directed the Primary, Assessment, Curriculum and Experience project (PACE), tracking the impact of education legislation on practices and experiences in English primary school classrooms.

With a long-standing interest in the design, management and evaluation of research projects in education, Professor Pollard has worked extensively with schools and local authorities including many UK education agencies and funding bodies such as the Economic and Social Research Council, Training and Development Agency, the Esmee Fairbairn Foundation and the Higher Education Funding Council for England.

Professor Dylan Wiliam



After a first degree in mathematics and physics, and one year teaching in a private school, Professor Wiliam taught in inner-city schools for seven years, during which time he earned further degrees in mathematics and mathematics education.

In 1984 he joined King's College London to work on developing innovative assessment schemes in mathematics before taking over the leadership of the mathematics teacher education programme at King's. Between 1989 and 1991 he was the academic coordinator of the Consortium for Assessment and Testing in Schools, which developed a variety of statutory and non-statutory assessments for the National Curriculum of England and Wales. Professor Wiliam has just retired from the Institute of Education where he was a deputy director and Professor of Educational Assessment.

His research experience includes the professional development of teachers through a focus on the use of evidence about student learning to adapting teaching to better meet student needs. He was featured in a recent documentary for BBC2, *The Classroom Experiment*, which trialled his ideas for a different approach to teaching in schools. He is also experienced in the use of assessment to support learning. He was the co-author, with Paul Black, of a major review of the research evidence on formative assessment published in 1998 and has subsequently worked with many groups of teachers, in both the UK and the USA, on developing formative assessment practices.

You can download this booklet online at: <http://www.education.gov.uk/publications>

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