Implementing the curriculum with Cambridge: A guide for school leaders
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Foreword

While we work hard at Cambridge to ensure that our programmes and syllabuses are culturally sensitive, designed for an international context and set a global standard for international education, the reality is that the most important work is done by leaders and teachers in schools. Schools have the responsibility to develop and implement a curriculum which is suitable for their context, culture and ethos, and which is tailored to their students’ needs.

Our programmes and qualifications are designed to give you the flexibility to make this possible. We do not believe that a common prescription is suitable for all. Curriculum must be seen as a much broader concept than qualifications. Excellent schools concentrate on the culture of the school and the learning that happens in between classes, and offer a range of co-curricular activities. We hope our learner attributes can contribute to this by encouraging teachers to focus on the strategies and habits needed for life-long learning within and beyond the taught curriculum.

Debate about child-centred as distinct from knowledge-centred approaches to curriculum can distract from the reality that both provide essential perspectives and should not be viewed as alternatives. We believe that curriculum should focus on powerful knowledge. Schools are responsible not only for getting students into higher education but preparing them to get on once there. Powerful knowledge requires schools to give students access to new tools for thinking about the world, not easily learnt from their own experience. The academic disciplines provide the foundation for this, and at Cambridge we are concerned with supporting the development and application of deep understanding to real-world problems. Building disciplinary understanding is also powerful knowledge and increasingly important, provided it is grounded in disciplinary understanding.

This guide is intended to help you make sense of your curriculum and plan for its development. It should be read in conjunction with Developing your school with Cambridge: A guide for school leaders, which expands on many of the ideas introduced in this guide.

Dr Tristian Stobie
Director of Education, Cambridge International Examinations
Introduction

This guide will help school principals, school leaders, and others responsible for the educational programme in a school, design, develop, implement and evaluate the curriculum where Cambridge programmes and qualifications are followed. We believe that a well-designed and supported curriculum is necessary for the school to achieve its educational vision and aims. These aims usually include academic excellence, fulfilling the potential of every learner and giving learners a basis of knowledge and understanding that is relevant for today and prepares them for tomorrow.

The guide focuses on the curriculum as a whole. It:

• identifies fundamental principles that we believe schools need to engage with while they design, implement and evaluate their curriculum
• considers practices that support these principles
• explains our programmes and the support we offer in detail
• highlights where you can find more specific information, rather than repeating what is already available to you.

Every school is a unique community with its own identity and will be at a different stage in its evolution; some will be starting up while others will be evaluating where they are with a view to improving provision and practice. A Cambridge education covers primary to secondary level. Some schools base their whole school curriculum on Cambridge programmes and qualifications while others combine Cambridge with other national or international qualifications. This guide is relevant to all of these situations. Schools are responsible for their own curriculum, and our role is simply to support them in making informed decisions. The principles and practices outlined in this guide are based on our experience of listening to what schools want to achieve through their curriculum, and are informed by research-based best practice. The final chapter ‘Working with us’ and the ‘Annotated bibliography and other resources’ section at the end of this guide direct you to other sources of information and support.

While the focus is very much on curriculum, it is not meaningful to separate the curriculum from the broader school policies and practices in which it is embedded. Curriculum development inherently involves building school capacity, structure and operations to support the curriculum. These areas are also briefly covered.
This chapter considers what the curriculum is and how it should be derived from the school’s educational vision. It highlights the fact that qualifications form only part of the curriculum. Every school is unique and, in planning the curriculum, you must consider how to support its implementation, which may necessitate changes to your school’s structure and operations. We introduce the fundamental principles that need to be considered in the curriculum design process. These are covered in more detail in other chapters.

2.1 What is curriculum?

Across the world the term curriculum is used in several different ways. In some countries ‘curriculum’ has a holistic meaning encompassing not only subjects, but also the connections between subjects, teaching methods and all aspects of schooling that result in the educational experience the learner receives. In contrast, in other countries a narrower interpretation is used, referring either to a prescribed range of courses (the curriculum in Year 6 contains eight different subjects) or a specific learning programme across different years (the chemistry curriculum at secondary level). In this guide the following definitions are used:

- **A school curriculum** refers to the combination of subjects studied within a school year and in sequential years as the learner moves through the educational system provided by the school.

- **A subject curriculum** refers to the content and skills contained within a syllabus applied across sequential stages of student learning. These stages normally refer to school year levels, and therefore a particular age of learner.

- **Co-curricular curriculum** refers to valued educational activities that support learning beyond the school curriculum, which the school encourages and supports.

- **The experienced curriculum** refers to the learning students actually receive as a result of the whole educational experience. This includes the impact of the school curriculum, teaching approaches, the co-curricular curriculum and the learning environment. It includes both the planned and unplanned or unintended outcomes of the curriculum.

It is important to recognise from the outset that planning the school curriculum, in terms of the subjects to be studied each year towards specific qualifications, is only part of the process. The school’s vision and aims will include personal and social outcomes as well as academic ones. Learning does not begin or end in classrooms, but permeates the school environment and broader community. What learners actually experience may not be the same as the written objectives of the curriculum – it will be the consequence of a complex web of interdependent parts including:

- the school’s vision and values
- teaching quality
- learner motivation and prior knowledge
- school leadership, environment and culture
- the school’s curriculum and subject curricula
- assessment practices and expectations
- the school’s internal structures and operations.

Therefore, designing a curriculum from first principles, or evaluating an existing curriculum with a view to improving it, is necessarily a complex and challenging task. While schools may use similar or even identical written curricula, the experienced curriculum is bound to be unique to each school. For this reason you must take ownership of your curriculum and regularly evaluate the outcomes against your intentions to make sure the educational experience is optimised and in line with the school’s vision and mission.
2. Curriculum planning: An overview

The school **vision** is a compelling sense of the future direction of the school that should be widely shared and inspire commitment. Most schools also have a **mission statement**, which is a written declaration defining the school’s educational purpose. **Educational aims** might be included in the mission statement or listed separately. Together with the vision and mission they provide focus and guidance on what the priorities are. The school **strategic plan** gives practical direction to the vision, mission statement and aims. This should include a statement headlining longer term priorities/objectives looking up to five years ahead, and a detailed one-year implementation plan.

Table 1 (on the next page) outlines some of the many questions that you need to address. It shows that decisions about the development of a school’s curriculum must be based on the school’s vision, mission and educational aims, taking into consideration school structures and building school capacity.
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### Table 1: Curriculum planning within a school context: Some critical questions

<table>
<thead>
<tr>
<th>Building school capacity</th>
<th>Structure and operation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Learners</strong></td>
<td><strong>Designing a curriculum</strong></td>
</tr>
<tr>
<td>Which attributes are desired for learners and how will these be promoted in the curriculum?</td>
<td>Which Cambridge programmes will be included or form the basis of the school curriculum?</td>
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<tr>
<td>What are the expected academic, personal and social outcomes?</td>
<td>How do we align the curriculum to match the school’s needs and those of the learners?</td>
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<tr>
<td>Which skills and competencies should they acquire through the curriculum?</td>
<td>Which subjects (and options) will be included in the curriculum?</td>
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<td>How will the curriculum motivate, engage and challenge learners?</td>
<td>How will learning within local or national contexts be developed in the curriculum?</td>
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<tr>
<td>Is the curriculum relevant to the needs of learners – now and in the future?</td>
<td>How will the school support learners who do not have English as a first language?</td>
</tr>
<tr>
<td>(In bilingual schools) which subjects will be taught in English?</td>
<td><strong>Qualifications</strong></td>
</tr>
<tr>
<td><strong>Teachers</strong></td>
<td>Will the school offer national as well as Cambridge qualifications?</td>
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<td>Which pedagogy and assessment practices should lie at the centre of teaching and learning?</td>
<td>Is progression from one level to the next coherent?</td>
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<td>What teacher professional development is required to ensure effective planning and delivery of the curriculum?</td>
<td>Will there be any scheduling or organisational difficulties if dual qualifications are offered? Will these combinations of qualifications support learners applying to higher education (in secondary schools)?</td>
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<td>How will teachers be encouraged to self-reflect on their current teaching practices and the learning achievement of their students based on meaningful evidence?</td>
<td><strong>Timetabling</strong></td>
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<tr>
<td>Is there provision for teachers to undertake relevant professional qualification courses to enhance their professional learning and the quality of student learning experiences?</td>
<td>How many subjects will be studied and for how many hours in each subject?</td>
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<tr>
<td><strong>Leadership</strong></td>
<td>How will this vary from one year to the next as learners progress through the school?</td>
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<tr>
<td>What role do school administrators have in the delivery of the curriculum and in supporting teachers?</td>
<td>Will the curriculum be fixed (compulsory) or provide a measure of learner subject choice?</td>
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<td>How do leaders know that effective teaching and real learning are taking place in classrooms?</td>
<td>How will such flexibility be balanced against the school’s current resourcing and staffing provisions?</td>
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<td>What are the quality assurance and system review needs for implementing a new curriculum?</td>
<td><strong>Facilities</strong></td>
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<td>Are effective collegial and collaborative team structures and dynamics operating school-wide and within subject/learning areas?</td>
<td>What facilities will be required to accommodate the requirements of specialist subjects?</td>
</tr>
<tr>
<td>Are inter-school networking opportunities available for teachers and school leaders to support the implementation and development of the curriculum?</td>
<td>Does the school provide appropriate learning environments for studying the new curriculum?</td>
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<td><strong>School community</strong></td>
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<tr>
<td>What involvement will school support groups and other community groups have?</td>
<td>What financial provision is available for delivering the curriculum, in terms of teaching resources, teacher support and administrative requirements?</td>
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<td>What contributions can these groups make in the development of the curriculum?</td>
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<td>How can the resources of the local community be linked into the school curriculum?</td>
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2. Curriculum planning: An overview

2.2 Principles fundamental to successful curriculum design and implementation

One aspect of planning the school curriculum is choosing the combination of subjects to be studied for each year and designing a sequential programme for each year of schooling.

Cambridge schools operate in a wide range of contexts with differing demands and expectations. What is included in the school curriculum will be determined by the school and/or national requirements, and should be driven by the vision and values of the organisation. The curriculum is at the heart of schools’ strategies to raise achievement and improve outcomes for all learners. Cambridge understands that while some schools will prefer to offer a curriculum made up entirely of combinations of Cambridge courses, combining these to form a programme of study, other schools will select individual subject syllabuses and combine them with qualifications and educational programmes from other national or international providers.

We believe that certain principles are fundamental to successful curriculum design and implementation.

1. The school curriculum should deliver a broad, balanced, coherent and consistent programme of learning with clear and smooth progression routes designed for the needs of all learners.

The curriculum should provide:

- the necessary understanding, knowledge and skills for learners to progress, well prepared, to the next educational stage
- an appropriate volume of content and standard of difficulty
- a spiral approach to skill development with concepts revisited and engaged with at deeper levels in different contexts, dependent on the learners’ developmental stage
- a balance of subjects covering different educational processes, objectives and content, developing a holistic set of skills and knowledge.

The concept of breadth and balance will be illuminated by the school’s vision and educational aims. A school curriculum that is ‘balanced’ normally includes mathematics, languages, sciences, technology, humanities, creative arts and physical education. A ‘broad’ curriculum of this type provides the opportunity for learners to experience, acquire and develop essential and valued learning from a variety of contexts. It may be that some disciplines, for example information technology, are infused in the teaching of other subjects rather than being taught as a discrete subject. There is still the need for a clear identification of these activities, supported by a written curriculum that helps define precisely who is responsible for their development. It is also important that literacy and numeracy are supported by teachers of all subjects, not just in languages and mathematics.

In the senior years of schooling some narrowing of the curriculum may be expected as learners prepare for specific qualifications required for progression to higher education. Learners should still be expected to take part in activities and programmes that are complementary to the academic qualifications they are preparing for, and the school should provide a breadth of activity and engagement in support of the school’s mission.

The curriculum, and the assessments that frame the educational expectations in the school, will significantly influence teaching and learning practice and the educational or learning experiences of students. Pay careful attention to monitoring the effectiveness of school structures, practices, systems and processes to ensure the highest quality of teaching is achieved. In addition, make sure course requirements and regulations (including those for assessment and coursework activities) are followed as this will help promote and enhance learner achievement as they progress through each year of schooling.

If you are combining Cambridge qualifications with others, it is important to consider compatibility issues. It may be that other qualifications or programmes of study incorporate different approaches to teaching, learning and assessment from those described in this guide. This will require careful planning and coordination to ensure that any differences
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are clearly understood and accommodated. The answers to the questions in Table 1 will be particularly relevant in this context.

2 The curriculum supports the development of learners and teachers who are confident, responsible, reflective, innovative and engaged.

The demands of living and working in the contemporary world, characterised by uncertainty, globalisation, rapid change and technological innovation, need to be reflected in a school’s educational approach. Factual knowledge is in abundance and freely available. The ability to process and apply knowledge effectively and wisely is now critical. Learners need to become problem solvers, able to interact with subject content in critical and innovative ways. They should acquire and employ strategies for accessing, processing, applying, synthesising and evaluating content and develop an understanding of how it all fits together as an academic discipline.

In addition to acquiring these broad-based skills, successful learners take responsibility for their own learning. They do this by developing self-awareness, self-motivation and by adopting strategies and habits to take control of their learning. They are inquisitive and actively engaged, able to shift easily between independent study and collaborative enquiry. Additionally, the acquisition and implementation of ICT skills to access, process, evaluate, communicate and share knowledge and understanding are considered fundamental learning competencies. The ‘Cambridge learner’ (see Table 2) exemplifies these key attributes, which are equally applicable to teachers, reinforcing the concept of ‘partnership in learning’ between learner and teacher.

3 Each subject curriculum should be designed to provide learners and teachers with inspiring and relevant content and an appropriate breadth of subject knowledge and skill development appropriate for the learners’ developmental stage.

Subject curricula should be formulated chronologically so they show appropriate progression from one stage of education to the next. The knowledge, understanding and skills acquired at each preceding year level form the foundation for learning at the next level. This spiralling process leads to deeper levels of understanding being gained through related study in a variety of contexts, reinforcing prior learning and creating links to new learning.

We offer subject curricula across the years of schooling based on specified educational standards appropriate to the learners’ developmental stage. The final year of a curriculum in a single subject allows progression to study at university and other higher learning institutions. Our qualifications are internationally recognised and allow for learners to progress to the next stage of education by recognising their secondary school achievements. We work closely with universities around the world to ensure that our pre-university qualifications are designed to equip learners for study at universities and other higher learning institutions.

4 The school curriculum should recognise the language background of learners and provide them with the support they need to access the curriculum. Subjects that are taught in the medium of English should be accessible for learners with English as their second language.

Even schools operating in English-speaking countries have learners who do not have English as a first language or learners who have different
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levels of English proficiency, so the first two points below apply in all Cambridge schools.

• **Every learner is a language learner:** Language plays a particularly critical role in the school curriculum. If English is the language of instruction then it is also the medium through which students access learning and communicate their understanding in all their subjects. Schools often have learners with different language profiles, and this reality must be reflected in curriculum planning and in a coherent language policy reflecting the school’s situation.

• **Every teacher is a language teacher:** Other subjects are assessed in English and require learners to develop sufficient English language competencies – not only in reading and writing to be able to take examinations, but also in speaking and listening in order for learning to take place. The inclusion of learning through English becomes an integral component in the study of these subjects, with schools developing a variety of strategies to progressively advance these skills in the years preceding formal assessment. One of these strategies is for all teachers to be ‘language aware’ and to plan language support in their classes.

• **Every school can support multilingualism:** We support the learning of languages through the provision of language curricula for English speakers learning foreign languages and for non-English speakers learning English. For some languages, alternative language curricula cater to the learning needs of first and second or foreign language learners. Even where curricula are not available in certain minority languages, or where multilingual schools are not able to teach a large number of minority languages, Cambridge schools can still support multilingualism by promoting other languages and making use of first languages as a valuable learning resource in the classroom.

• **Education in a Bilingual or Multilingual school:** In addition we support schools who want to use bilingual education programmes in order to develop bilingualism to age-appropriate levels of competence. This is where two or more languages are used as the medium of instruction for non-language subjects. Learners study some non-language school subjects, such as maths or geography, mainly through a second or third language, and some subjects through their first language. The understanding of bilingual education is linked to other educational concepts such as content and language integrated learning (CLIL). Here, in content classes, learners develop subject knowledge and new language skills at the same time. If dual national and international qualifications are being offered, the curriculum may specify subjects that will be taught through either English or the first language, that is, in a bilingual curriculum design. To find out more about our approach to bilingual education visit www.cie.org.uk/bilingual

We are aware that many learners completing our programmes and qualifications are operating in a language which is not their first language. Examiners apply a positive marking approach, looking to award marks when a learner has demonstrated understanding. Learners are not penalised for spelling and grammatical errors except in the assessment of languages which are testing language skills.

5 Assessment has a number of purposes that are essential to the educational process. These include assessment for learning (providing feedback in support of the learning process), and summative assessment (determining a learner's level of performance).

Assessment is an integral component of each subject’s curriculum. Pedagogy and assessment are inseparable in the teaching and learning process, as development in one reciprocates change in the other. Assessment for learning practices are essential teaching strategies that inform teachers and learners about the current level of understanding and skill acquisition during the actual teaching phase, providing guidance and feedback for subsequent teaching. Summative assessment is carried out at the end of a period of learning and its purpose is to judge what standard the learner has reached. The final assessments in many Cambridge qualifications are high stakes because results influence progression onto the next stage of education or higher education, and can be used to make external judgements (for example by a university) of the learner’s level of performance.
Clear and meaningful educational standards are essential to ensure accurate measurement of progress and achievement and allow for international benchmarking and comparability.

Educational standards provide the basis for defining expectations for student learning. They can also be used to monitor the progression of student learning over time against a defined set of standards. Educational standards are referenced to criteria which relate to the objectives of students’ learning – this ensures that standards are consistent and can be compared over time and location. Our assessments inform schools and the learners themselves about their depth of understanding and their acquisition of specified subject skills. Assessment of specific and transparent educational standards enables the benchmarking of learner achievement on a local (school), national and international scale. Assessments are planned and designed alongside the curriculum and we pay particular attention to ensure that all assessments are valid, reliable, fair, and operate to the highest technical standards.

The quality of teaching is a critical determining factor in learner development.

Teachers are the most powerful influence on student learning. They make the curriculum real by translating learning and assessment objectives, syllabus aims, subject content and school policy into meaningful learning experiences. In Chapter 3 (Table 2) the learner attributes apply to both teachers and learners, as teachers are required to exemplify the processes and practices expected of learners.

Reflective practice supported by professional development is an essential and continuous part of a teacher’s life.

It follows that systematic teacher professional development (PD) is one of the most important activities in which schools can engage to improve student learning and performance.

We are committed to providing a range of PD opportunities and resources, reflecting the different backgrounds and levels of experience teachers have. These support the teaching of Cambridge programmes and qualifications, the development of pedagogical skills and helping teachers to become confident, responsible, reflective, innovative and engaged. There are also numerous other excellent PD options that teachers can follow. Professional development should not be confined to Cambridge offerings, but does need to be consistent with the principles described in this guide.

One purpose of PD is supporting evidence-based reflective practice in day-to-day teaching. One of the best ways of achieving this is through teachers working collaboratively in professional learning communities. These communities can be locally based or centred in the school and networks of local schools, but they can also draw on the wider international Cambridge community. The Cambridge community is uniquely powerful in its inclusion of diverse schools, countries and cultural contexts, sharing the same educational values and principles. Digital communications such as the internet let us easily, efficiently and economically share experiences, ideas and initiatives across the community, with our common goal of improving the quality of teaching and learning.

Providing opportunities for teachers to develop their professional knowledge and qualifications significantly benefits the teacher and the school, leading to improved student learning and achievement. We would also encourage school leaders to support experienced and suitable teachers in becoming Cambridge teacher trainers and examiners. Being an examiner or trainer is a most effective way of developing teachers’ own practice, helping to improve professional practice within the school as well as contributing to the international Cambridge community.

The pedagogy required to enable learners to achieve their maximum performance using Cambridge curricula and assessments is based on active learning.

Good teaching practice is not something that can be universally prescribed, and there are important cultural and local influences that will help to define what ‘good’ means. There are a wide range of strategies that can be effective in the classroom, and it is dangerous and simplistic to overgeneralise. On the other hand, enabling students to develop the
active learning styles described in point 2 and exemplified in the learner attributes (Chapter 3, Table 2) requires teachers to understand, acquire, develop and incorporate some particular pedagogical strategies into their teaching practice as part of their repertoire. These are considered in the next chapter.

10 Strong leadership is a necessary condition for school improvement and curriculum development.
School leaders contribute, in a variety of ways, to the design and successful implementation of the school curriculum. Schools are a complex web of interdependent parts, and responsibilities of school leadership include getting the best out of both individuals and the system, and developing the system to better achieve the school’s mission. Excellent school leadership involves creating the conditions necessary for teachers’ potential to be realised. Teachers should themselves be viewed as leaders. They lead in the classroom by making the curriculum real to learners and creating opportunities for student learning. Teachers, as reflective practitioners, can also play an important role in school improvement and become positive agents of institutional change.

11 Curriculum development involves an ongoing process of evidence gathering and evaluation.
Schools as institutions exist in a constant state of development, evolving as they respond to changing internal needs and externally imposed requirements. Conducting regular reviews of the school curriculum, and the effectiveness of its implementation and delivery, should be a priority. Such reviews are fundamental elements of the annual school management cycle – a process of goal setting, monitoring, evidence collecting and evaluation leading to affirmation or refinement of the school’s strategic plan.
Developing the Cambridge learner attributes

This chapter considers approaches that support the development of learners and teachers who are confident, responsible, reflective, innovative and engaged. Cambridge subject curricula and assessment specifications are designed with these attributes in mind, but they need to be supported by teachers in the classroom. They also transcend individual subjects and need to be developed across the curriculum and considered in relation to the broader culture and environment of the school. There is a danger that, because these attributes are not assessed or taught in the same way as disciplinary knowledge and understanding, they are given only tacit recognition. It is the responsibility of school leadership to ensure that this does not happen.

The challenges schools face in preparing students for the future are significant. In the words of Andreas Schleicher, OECD Education Directorate (2011):

“A generation ago, teachers could expect that what they taught would last their students a lifetime. Today, because of rapid economic and social change, schools have to prepare students for jobs that have not yet been created, technologies that have not yet been invented and problems that we don’t yet know will arise.”

An international project concerned with the assessment and teaching of 21st century skills [Griffin et al 2012] identifies the changes in educational focus needed to prepare learners for the modern world, under four categories:

• **ways of thinking:** including creativity, innovation, critical thinking, problem-solving, decision-making and learning how to learn
• **ways of working:** including new forms of collaboration and communication
• **tools for working:** including developing information literacy and the capacity to harness the potential of new technologies
• **skills for living in the world:** involving the development of local and global awareness, and personal and social responsibility.

Many schools will want to develop learners who combine a deep appreciation and understanding of their own culture, community and nation with the attributes and skills needed to be global learners who can effectively participate in the modern international world and adapt to uncertainty and change. Cambridge introduced the learner/teacher attributes (Table 2), recognising that a meaningful curriculum is more than a collection of different subjects. Learners need to develop the academic skills, life skills and attitudes needed to be successful in higher education and in the world of work. Simply naming desirable attributes will achieve nothing if it does not impact on the curriculum and how it is delivered.

### 3.1 The Cambridge teacher

Excellent teaching is the most significant contributing factor that impacts upon both learners’ academic performance and the development of the learner attributes. Successful schools and successful school systems develop and nurture highly skilled teachers who are encouraged to be creative professionals working in a collaborative culture.

It is important to stress that there is no single recipe for excellent teaching, and that different schools, operating in different countries and cultures, will have strong traditions that should be respected. There is a growing consensus, however, about some important practices and approaches that need to be adopted if learners are going to fulfil their potential and be prepared for modern life.

Understanding of an academic discipline cannot be transmitted from one person to another; it is always constructed in learners’ minds. In order to develop a learner’s understanding of a concept their existing mental models must be challenged and extended. Teachers have to listen...
3. Developing the Cambridge learner attributes

to the voice of the learner, in the classroom and as evidenced in the work they produce, and engage with it to support learning and help the learner develop their own understanding. This process helps to develop independent learners as they start to model the teacher’s approach. The most effective learning environment is created when learners’ thinking is being challenged, and the work is extending what the learners could achieve independently – the role of the teacher is to support (sometimes referred to as ‘scaffold’) student learning in what Vygotsky (1978) described as the zone of proximal development.

As a collection of practices and principles this approach could be described as active learning. The design of Cambridge subject curricula and assessments is based on this understanding of the learning process so that learners’ ability to critically engage with the material is examined through our assessments.

Teachers need to employ a variety of teaching strategies in the classroom and listen to the voice of the learner. Assessment for learning, using learner work to diagnose precisely their current level of understanding, becomes central to the teaching process. For much of the time learners should be actively engaged, which involves interaction among learners and with the teacher. This can be achieved through group work and whole-class instruction, which can be very active if it involves open discussion and learners responding and presenting rather than the teacher constantly lecturing. It is important to note that individual learning activities, where learners have to work in a disciplined manner on their own, remain critical, as does the learning of relevant factual knowledge contained within subject curricula. Active learning requires teachers to use subject content in broad ways, creating opportunities for learners to enhance their own understanding and building meaningful links between prior and newly acquired knowledge and understanding.

Outstanding teachers are confident, responsible, reflective, innovative and engaged because they:

- **have mastery of their subject area.** They can relate concepts and skills in such a way that students learn to understand and appreciate the nature of the academic discipline they are studying, and what constitutes quality and excellence for the developmental stage they are teaching.

- **Teach for understanding as well as coverage.** They have the ability to engage with learners’ own mental ideas about the really important concepts, and take them on a journey of discovery. They support the development of learners’ understanding by adopting a spiral approach in planning activities to develop subject-related skills. This approach plans for learners to revisit concepts over an extended period of time and within different contexts. This spiralling strategy reinforces learning and leads to deeper levels of understanding.

- **Connect learning to the real world, other topics in the subject, other disciplines and the experience of learners.** Learning is made relevant. Teachers build connections in learner minds between different concepts both within the subject and, where relevant, between subjects.

- **Scaffold learning.** Building higher level thought requires practice and patience. Teachers need to constantly work in the proximal zone of development. The optimal level performance for a learner is the level that they can reach when they receive expert support, as distinct from the functional level, which they can achieve independently. Scaffolding learning supports closing this gap. By concentrating on the processes as well as the products of learning, students also develop the capability of raising their own functional level and become more effective at teaching themselves.
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- **Are able to model problem solving and consider themselves as mentors as much as teachers.** They are concerned with the holistic development of the learner and understand the critical role that attitudes, emotions and self-confidence play in learning. They communicate a love of learning and believe every learner can achieve.

- **Understand, and can apply, assessment for different purposes.** They have an excellent grasp of summative assessment practices, but they also understand how to use assessment to support student learning. This is the process of identifying what the learner has or has not achieved in order to plan the next steps in learning and provide scaffolding (point 4 above).

- **Use a variety of different teaching strategies and activities** including collaborative group work and creative assignments and activities, as well as overseeing individual learning.

- **Are reflective and creative practitioners engaged in ongoing effective professional learning.**

- **Are collaborative and supportive of their colleagues, the school and the school’s community.**

In practice, teaching involves constant decision making about the balance between different approaches and strategies. Teachers confronted with large classes of usually mixed-ability learners will need to balance whole-class instruction with engaging each learner on an individual learning path. Optimising this balance is not easy and develops with experience, supported by professional development, and will be influenced by the context and culture of the school.
3. Developing the Cambridge learner attributes

Table 2: The Cambridge learner and Cambridge teacher attributes

<table>
<thead>
<tr>
<th>Cambridge learners</th>
<th>Cambridge teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Confident</strong> in working with information and ideas – their own and those of others.</td>
<td><strong>Confident</strong> in teaching their subject and engaging each student in learning.</td>
</tr>
<tr>
<td>Cambridge learners are confident, secure in their knowledge, unwilling to take things for granted and ready to take intellectual risks. They are keen to explore and evaluate ideas and arguments in a structured, critical and analytical way. They are able to communicate and defend views and opinions as well as respect those of others.</td>
<td>Cambridge teachers know their subject well and know how to teach it. They seek to understand their learners and their educational needs. They strive to communicate a love of learning and to encourage students to engage actively in their own learning.</td>
</tr>
<tr>
<td><strong>Responsible</strong> for themselves, responsive to and respectful of others.</td>
<td><strong>Responsible</strong> for themselves, responsive to and respectful of others.</td>
</tr>
<tr>
<td>Cambridge learners take ownership of their learning, set targets and insist on intellectual integrity. They are collaborative and supportive. They understand that their actions have impacts on others and on the environment. They appreciate the importance of culture, context and community.</td>
<td>Cambridge teachers are highly professional in their approach to teaching and they are collaborative and supportive. They understand their actions will help shape future generations and they are concerned about the holistic development of every individual they teach.</td>
</tr>
<tr>
<td><strong>Reflective</strong> as learners, developing their ability to learn.</td>
<td><strong>Reflective</strong> as learners themselves, developing their practice.</td>
</tr>
<tr>
<td>Cambridge learners understand themselves as learners. They are concerned with the processes as well as the products of their learning and develop the awareness and strategies to be lifelong learners.</td>
<td>Cambridge teachers are themselves learners, seeking to build on and develop their knowledge and skills through a virtuous circle of reflection on practice – involving research, evaluation and adaptation. They support students to become independent and reflective learners.</td>
</tr>
<tr>
<td><strong>Innovative</strong> and equipped for new and future challenges.</td>
<td><strong>Innovative</strong> and equipped for new and future challenges.</td>
</tr>
<tr>
<td>Cambridge learners welcome new challenges and meet them resourcefully, creatively and imaginatively. They are capable of applying their knowledge and understanding to solve new and unfamiliar problems. They can adapt flexibly to new situations requiring new ways of thinking.</td>
<td>Cambridge teachers are creative, experimenting with new ideas and pursuing an enquiring approach in their teaching. They are open to new challenges, being resourceful, imaginative and flexible. They are always ready to learn and apply new skills and techniques.</td>
</tr>
<tr>
<td><strong>Engaged</strong> intellectually and socially, ready to make a difference.</td>
<td><strong>Engaged</strong> intellectually, professionally and socially, ready to make a difference.</td>
</tr>
<tr>
<td>Cambridge learners are alive with curiosity, embody a spirit of enquiry and want to dig more deeply. They are keen to learn new skills and are receptive to new ideas. They work well independently but also with others. They are equipped to participate constructively in society and the economy – locally, nationally and globally.</td>
<td>Cambridge teachers are passionate about learning within and beyond the classroom, sharing their knowledge and skills with teachers in the wider educational community.</td>
</tr>
</tbody>
</table>
3. Developing the Cambridge learner attributes

3.2 The Cambridge learner

The learner attributes are aspirational and represent attitudes, backed by skilled action, which become effective habits in learning. As these were written with the global learner in mind, they are consistent with other classifications of the attributes of 21st century learners written in different countries by both education authorities and employers, describing the competencies learners need to demonstrate to be effective in the modern world. The attributes are not intended to be exhaustive. Schools may want to supplement them with others derived from the school’s vision. In order for the learner attributes to become meaningful, one of the roles of school leaders (broadly defined) is to engage the community with them, helping people understand how they relate to the mission of the school and why they matter.

Subject curricula need to be viewed as more than just a subset of knowledge to be taught and assessed by teachers and learnt by students. The subject curricula are the basis for the teaching and learning programmes facilitated by teachers. These teaching programmes can be vehicles through which these wider expectations for learners are expressed and delivered. The content of the subject curriculum is the main source material from which teachers can develop the activities that make up their teaching programmes. When planning lessons, teachers can build in opportunities for students to participate in learning activities and events that help grow and advance the development of learner attributes – consistent with the active learning approach described in the previous section.

The learner attributes apply across the curriculum and need to be supported both through the school’s curriculum and co-curricular programmes. It is important, when designing the school curriculum, to ensure a breadth and balance of subjects and educational activities that contribute to cognitive, creative and psychomotor development. Some subjects lend themselves particularly well to collaborative work, creative expression and developing learner research skills, whether individual or collaborative (see Global Perspectives section on page 18). Having a rich selection of co-curricular activities will provide learners with opportunities to develop the inter- and intra-personal skills described in the attributes.

The vision of the school will very much determine the focus of the co-curricular programme.

The school’s environment, culture and the unacknowledged learning that permeates the school’s community beyond the classroom will also have an important role in nurturing these attributes, so they need to be the concern of the whole school community. What is planned and what actually happens – the experience learners receive – are not always the same, and there are learning outcomes and practices that are not acknowledged, but nonetheless exist, in every school. It is extremely important to monitor and evaluate the experienced curriculum to see if what learners actually experience corresponds to what was intended. School evaluation procedures involving learners, teachers and parents can provide insightful feedback (see Chapter 5).

3.3 Becoming a reflective learner

The reflective attribute highlights the importance of learners understanding themselves as learners. They are concerned with the processes as well as the products of their learning and develop the awareness and strategies to be lifelong learners.

What are the characteristics of reflective learners? They:

- constantly monitor what they are doing and produce appropriate responses
- are effective at planning and managing their work and performance and accurately evaluating their progress
- understand themselves as learners and the nature of the knowledge they are learning
- apply their understanding to performance
- are able to think both critically and creatively so as to overcome barriers to learning and engage with subject content deeply
- learn from mistakes
- are emotionally resilient when confronted with setbacks
- are confident, but not arrogant, in working with others and sharing ideas
3. Developing the Cambridge learner attributes

- care about the learning of others and realise that learning is social and collective
- take calculated risks, understanding that we learn from mistakes.

Becoming a reflective learner also requires being confident, responsible, innovative and engaged. All the learners’ attributes are interconnected. While most schools would agree that learning how to become a reflective learner is critical, many assume that learners will develop these skills automatically, and it is not considered part of the curriculum. It is also often the case that schools, school systems and teachers only give tacit recognition to these more general capabilities and then concentrate on what they are held accountable for. The ‘backwash’ effect from what is assessed and what is prescribed in the curriculum means that vital educational aims can remain underdeveloped. Some schools have tried to teach learning/reflective/study skills as an extra course. Separate classes tend not to be very successful because learning skills are best developed in the context of real disciplinary learning. All teachers should consider themselves as teachers and supporters of the learner attributes.

Effective learners understand that learning is an active process involving questioning, discovery of barriers, devising strategies to overcome the barriers, constantly evaluating progress and changing what they do if it does not work. Less effective learners often only take a passive approach. When trying to revise, for example, they read and re-read books and their notes, trying to absorb the material. This is based on the false image that understanding can be transmitted from a text (or a person) to the memory. Active learning has to be deliberately practised in different contexts, and supported by the school and individual teachers who understand and model the practices themselves. This will not happen unless it is emphasised as a curriculum competence and supported by structures and systems that emphasise:

- making the process of learning an object of reflection for students and teachers by clearly identifying learning aims and objectives in each subject that supports its development
- ongoing professional development for teachers and the creation of professional learning communities that support teaching practice
- the development of concepts (and therefore language) that help individuals understand and describe the learning process they are going through
- emphasising a holistic understanding of each academic discipline, making explicit the hierarchy of a subject: What are the most fundamental concepts? How do they relate to each other?
- assessing the processes as well as the products of learning, and requiring learners to demonstrate their understanding holistically in authentic contexts as well as in examinations and tests
- focusing on assessment for learning, not just assessment of learning, to help students become autonomous, able to assesses their own progress and understand what constitutes excellence in that discipline
- encouraging learners to be reflective
- creating a culture where learning is valued with a positive classroom climate and school environment
- supportive co-curricular activities.

While the learner attributes apply across the curriculum, it is also true that each subject has something important to say about effective approaches to learning in the context of that discipline. Excellent teachers have always understood this and helped learners develop their own general capabilities as scientists, historians, artists, mathematicians, and so on.

3.4 Critical thinking, communication and collaboration

Effective learners need to learn how to deal with the vast range of information available to them. This requires reflecting upon, and making informed and reasonable judgements about, the concepts, ideas, evidence and opinions of others. Critical thinking may lead to lines of enquiry involving conceptualising, analysing, synthesising, applying and evaluating. It includes:

- evaluating often conflicting information
- testing inherent assumptions, the validity of arguments or standpoints
- giving well-reasoned judgements, conclusions and solutions.
3. Developing the Cambridge learner attributes

Students need to learn to become good independent and collaborative critical thinkers. Cambridge assessments are designed to test discipline-based higher order thinking skills (depending on the developmental stage of the learner), so critical thinking is built into subject curricula and assessments by design. Learner collaboration during classwork is often associated with problem-solving and critical-thinking activities, and is a very important teaching strategy. Collaboration encourages learners to contribute their own ideas and skills, and therefore personalises the learning experience, making it more interesting and more likely to fully engage the learner.

Effective communication skills must work collaboratively. Communication involves both verbal and written forms, so opportunities to develop both should be built into the teaching and learning programme. Class presentations are a good way to develop communication skills, either individually or as part of a small group. They can be used to summarise findings from investigations or research projects, and can bring together a variety of learning materials, resources and activities. Presentations and group activities provide opportunities for learners to give feedback to each other. Getting learners to provide feedback against set criteria can help to develop high-level communication and reasoning skills, due to the need to justify their decisions, scores or evaluations.

3.5 Information literacy

Being able to effectively use ICT resources is another essential skill all learners need to develop. Over the past decade the use of digital technologies in classrooms has continued to expand. Desktops, laptops, tablets and smart phones are commonly used for learning, as educators find ways to employ today’s technologies in school classrooms across all subjects. Including ICT-based resources and activities in teaching programmes can be challenging, but it is vital for today’s generation of learners – they use ICT resources to access, process, evaluate and communicate information and data. Our programmes and subject criteria encourage the effective use of ICT resources to develop these essential skills. We offer professional qualification courses that focus on the use of ICT in classrooms. For more information see Chapter 6 ‘Working with us’.

3.6 Holistic understanding and transfer

Designing a school curriculum is normally organised, for good reason, around the provision of a balance of different subjects appropriate for each age group. It is important to realise that there are many areas of overlap between subjects, and that the school curriculum should allow for students to develop a more holistic understanding of themselves as learners, and to reflect on the similarities and differences inherent in different subject approaches.

Interdisciplinary understanding is best built on a disciplinary foundation, otherwise academic rigour can be compromised. Learners, however, find it difficult to apply what they have learnt in one subject or situation in school to different contexts, both academic and practical. This is the problem of transfer. Since learning to cope with uncertainty is so
Implementing the curriculum with Cambridge: A guide for school leaders

3. Developing the Cambridge learner attributes

important in the modern world, and most of the challenges the youth of today will face will require interdisciplinary understanding, it is highly desirable that they learn to apply what they have learnt to new contexts.

One role of teachers is to help learners make connections, to help establish links in their minds between what they learn in one context and application in another. The school curriculum can facilitate this.

There is an important role in curriculum planning for the prescription of activities, courses and/or qualifications that draw on learners’ experiences across the curriculum, and require them to work both individually and collaboratively on authentic and significant questions. Learners need to be challenged, required to produce extended written work and make presentations on their findings, working collectively and individually on different assignments. Global Perspectives (introduced below) is one example of such a programme deliberately designed for this purpose.

Some schools identify interdisciplinary links in the curriculum. This may be done in an informal way with individual teachers sharing their teaching plans in the staff room, or during meetings scheduled for this purpose. One simple example of this would be where students have learned some statistical skills in mathematics, and the geography teacher makes them apply this knowledge to their geography coursework, thereby reinforcing the concepts. Another option which can raise the profile of interdisciplinary links is to use curriculum mapping software (now widely available) and/or have curriculum coordinators examining the learning across particular age groups, helping to identify and support meaningful links. This complements the work of heads of department who are responsible for vertical subject curriculum coherence and consistency.

Because of the assessment backwash effect referred to earlier, these interdisciplinary activities work best when they are highly valued by schools and education systems, and supported by teacher professional development. Ideally there needs to be a curriculum ‘space’ built around them, which allows time for students to practise and explore, make mistakes, learn from their teacher mentors and reflect. Too often the tendency is to marginalise these activities in a secondary curriculum which is overloaded with content.

3.7 Cambridge Global Perspectives®

Cambridge Global Perspectives is an interdisciplinary programme, offered at Cambridge IGCSE®, Cambridge International AS & A Level and Cambridge Pre-U, which focuses on the nature of argument and evidence, encourages understanding and respect for the perspectives of others, and develops a range of skills needed for success in higher education and the world of work in the 21st century.

Students learn to appreciate a variety of alternative perspectives on global issues where ideas and interests compete and there are no easy answers. They learn how to evaluate different arguments, in particular the evidence and reasoning used to support them, as well as improve the quality of their own arguments. These important active-learning skills are transferable to learners’ other subjects.

Through studying global topics learners gain a global context in which they can develop their skills. The skills of flexible, reflective, creative and critical thinking are developed, and students learn how to research issues and arrive at well-reasoned and evidenced-based conclusions. With each topic, learners use the same set of skills. Throughout the course their skills strengthen, their confidence grows and they become more independent. As learners’ confidence grows, the teacher’s role becomes more about facilitating. Students also learn to work collaboratively with others and effectively communicate and critique ideas so that they become, in support of the Cambridge learner attributes, more confident, responsible, reflective, innovative and engaged.

Global Perspectives can be taught as a discrete subject on its own. However, an alternative option for schools who would really like to emphasise its significance would be to use Global Perspectives as the curriculum core. This places it at the heart of the school curriculum and emphasises its interdisciplinary nature. Teachers of other subjects would be made aware of its learning and assessment objectives and, where applicable, support them in the teaching of their own subject. Learner research and project work would be coordinated, with subject-expert teachers acting as mentors across the curriculum.

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Designing the school curriculum

This chapter focuses on issues that need to be considered to successfully design and implement a school curriculum using Cambridge programmes and qualifications. It is relevant in cases where schools are basing their whole school curriculum on Cambridge courses, and in those instances where schools are combining Cambridge courses with other national or international qualifications. Models of how Cambridge programmes can be used to support the development of bilingualism are introduced. The structure of Cambridge programmes and qualifications is reviewed. The practical implications of introducing a curriculum, such as timetabling, are briefly considered.

Cambridge educational programmes and qualifications are deliberately designed to be flexible so that they can be used by schools and school systems in ways that best meet local needs.

The Cambridge Primary and Secondary 1 programmes are structured curriculum frameworks for a narrow range of subjects (English, English as a second language, mathematics and science). By their nature they are designed to provide part of the school curriculum and deliberately require considerable teacher creative input to make them relevant to the local context. Cambridge Secondary 2 builds on the foundations of Secondary 1 and provides a range of different courses and qualifications from which schools can select. Similarly, Cambridge Advanced builds on Secondary 2, offering a wide choice of courses. It is possible to construct the entire school curriculum around Cambridge courses at Secondary 1 and 2 levels if this is what a school decides. Alternatively, these qualifications can be combined with other local or national ones to form a blended school curriculum. No matter what option the school decides, certain design principles should be respected.

4.1 Balance
Chapter 1 highlighted the importance of deriving the curriculum from the school’s mission, so that it reflects the values and educational aims the school wants to achieve. In one respect curriculum planning involves designing an educational programme based on a selection of what the community that the school serves values most. By definition this involves prioritisation as there are only a limited number of hours in the school day and days in the school year.

It is also important to recognise from the outset that quality is at least as important as quantity. Schools are often tempted to add more and more content to the curriculum with the noble intention of including as much valued learning as possible. The danger with this is that there is a potential trade-off between coverage and depth of understanding. Too much coverage does not allow time for depth of engagement. The curriculum also needs to allow for a balance of educational activities. Chapter 3 explored how the learner attributes could be nurtured through a curriculum which allowed teachers the space to use a variety of teaching strategies designed to develop learner self-awareness, research and enquiry skills. This requires time.

All schools will have to engage with the issue of balance, and there is no simple answer to how much or what to include. Societies have different expectations of schooling and cultural norms, so what might be considered an overloaded curriculum in one context will not be in another. Equally, when a school chooses to create a blended curriculum, combining national curricula with Cambridge qualifications, they will need to make their own informed judgement about the optimum balance and curriculum load.
4. Designing the school curriculum

4.2 Coherence and consistency
The curriculum should be more than the sum of its parts. It should fit together in a way that makes sense for the developmental stage the learner is at. A balanced and coherent curriculum usually provides a wide range of different and complementary learning experiences that fit well together, particularly if the aim is to develop well-rounded citizens. While there may inevitably be a narrowing of the curriculum at the top end of secondary school, to allow for learners to gain the depth of knowledge and understanding needed for higher education, the school curriculum (supported by the co-curriculum) should still recognise the school’s broader mission and educational aims.

An excellent school curriculum fits together in such a way that the content, teaching approaches, assessment practices and the culture in which it is embedded are in harmony and support each other. Chapter 3 briefly considered how it is possible to align disciplinary teaching in a way that can support interdisciplinary transfer and understanding. This is one good example of coherence in practice.

Consistency is concerned with progression from one stage to the next. Do the different stages align? Are learners appropriately prepared and challenged at each stage? It is reasonable to expect changes in emphasis and approach as learners become more mature? Consistency does not mean that the curriculum will stay the same, but it is important that the changes are planned rather than unintentional.

Examining the school curriculum horizontally and vertically, in terms of both the written curriculum and evidence of what students actually learn, is an important part of the evaluation process considered in the next chapter. It also informs on decisions about which Cambridge courses to include and whether or not to combine them with others.

4.3 Combining Cambridge programmes with other national or international programmes
If a school decides to combine Cambridge qualifications with other local or national ones to form a blended school curriculum, issues of balance, coherence and consistency are particularly important to consider. Ideally the school curriculum should form a complementary whole rather than two separate curricula operating side by side. Where there are differences in approach these need to be understood and planned. As far as possible it is better for teaching and assessment methodologies for both systems to be compatible and mutually supportive.

Running a dual programme can create periods of excessive workload and high levels of stress for both learners and teachers. The leadership team should support teachers and learners by considering these factors in the curriculum design and timetabling process, and ensure that the programmes are appropriately resourced.

4.4 Curriculum models for bilingual and multilingual schools
As our assessments are in English, it is common for schools to use Cambridge programmes and qualifications for the English-medium (second-language) strand of a bilingual (or trilingual) education programme, and to use their own national (or regional) curriculum and qualifications for the first-language strand of the programme.

There are many ways of organising bilingual education, depending on individual contexts (e.g. resources, environment, language skills, goals). There can be different balances of first language and second language at different stages, starting with the first language, or starting with the second language, or starting with both languages as media of instruction. A curriculum model is based on how many subjects are taught and learnt through each language and over how much time.

For example, some schools:
• begin in a small way by teaching one module or project in English (short term, low intensity)
• prepare learners by immersing them in English for a short period – e.g. through overseas student exchanges, or by teaching all curriculum subjects in English for one school term (short term, high intensity)
• teach one or two content subjects in English over several years (long term, low intensity)
• teach a substantial part of the curriculum in English over several years (long term, high intensity).
4. Designing the school curriculum

Fundamental to all these approaches is developing the ability of teachers to teach their content through the medium of English. Content and language integrated learning (CLIL) is a recommended methodology to support this process, so that students are supported in learning the language they need to achieve in their subjects. A long-term training strategy would also allow local teachers to build up their second language skills to enable them to deliver lessons in English.

Learners also need to develop sufficient English language skills before taking high-stakes Cambridge IGCSE and Cambridge International A Level examinations in the Cambridge Secondary 2 and Advanced programmes. The Cambridge Primary and Secondary 1 programmes help prepare bilingual learners, and enable teachers to assess their progress and give feedback on their strengths and weaknesses in the core subjects of English, maths and science.

In addition, bilingual education often has to meet the needs of two curricula – a national (or regional) curriculum and an international curriculum. In such cases, how will learning be organised?

Approach A: *Split curriculum*

Using this approach, learners study some subjects as part of the national curriculum and other subjects as part of an international curriculum. In this way the problem of double timetabling is avoided. This model is only feasible if equal official recognition is given to the qualifications taken in both curricula.

Using this approach, learners study selected subjects in both the first language and in English, which could lead to awarding both national and Cambridge qualifications. The remaining subjects are studied in the first language. The common subjects (D E F) could be taught using:

- **An integrated curriculum.** Both national and Cambridge curricula for a subject are mapped to identify areas of overlap and difference, and are then covered:
  - In the same class by a bilingual teacher or two team-teachers. This way, the same teaching and learning can enable learners to take two qualifications: the national qualification in the first language and the Cambridge qualification in English.
  - By rotating classes/weeks/topics/terms/years between the first language and English. Sometimes, the learning is rotated or sandwiched over several years. In this way, learning starts in the early years with the national curriculum through the first language, then switches for a period of years to the Cambridge curriculum, when this ‘learning in English’ period allows students to work towards international qualifications, before returning to national curriculum priorities in the final years.

An integrated curriculum means that the learning is streamlined for the benefit of the learner – the learner just goes to one timetabled class for a subject. However, this does require curriculum mapping, planning and teacher coordination.
4. Designing the school curriculum

- **Two separate curricula.** The national and Cambridge curricula for a subject are covered in separate classes and languages, with no mapping of areas of overlap/difference.

If the curricula are separate, then the learner is probably aware that they are going to a national curriculum class and then to a separate Cambridge (e.g. IGCSE) class. Also, some of the learning may be duplicated. However, this may be easier for the school to organise if it is hard to map the two curricula, if there is not sufficient commonality between the two curricula, or if there is a language barrier which prevents teachers coordinating to produce and teach a single, integrated curriculum.

![Curriculum mapping for a subject](image)

Curriculum mapping builds an integrated, flexible sequence for learning by comparing two curricula and identifying common and different topics and skills.

Learners in all Cambridge schools need to be able to complete their studies and undertake assessments in subjects through the medium of English. While this can present particular challenges for learners with English as a second language, there are educational advantages in supporting language development and bilingualism. Not only are learners better prepared for participation in the modern global world, bilingualism also helps support individual cognitive development. Even if you are not running a bilingual education programme, there are other ways of developing ‘language awareness’ in international English-medium schools in order to help support bi/multilingualism.

An effective language policy can help to achieve this. We are committed to supporting schools to develop and implement strategies to successfully support students in multilingual settings, and to use CLIL (see our website [www.cie.org.uk/bilingual](http://www.cie.org.uk/bilingual) for further information). We are also committed to ensuring that our assessments are fair to learners who do not have English as a first language.

4.5 The English language component

For learners hoping to gain entry into universities in English-speaking countries, the English language component of their learning programme is really important. Universities set their own admission criteria for courses, which are usually available on their websites. For many universities a good grade in a Cambridge IGCSE English course satisfies their admission criteria.

We offer a number of English language courses through our international programmes. When deciding which course to include in your curriculum, make sure you understand the requirements of these courses, including the assessment tasks for each option and any examination restrictions or limitations that may apply. This information is available in the relevant syllabuses and in the guidance materials we send to Cambridge exams officers.

4.6 Cambridge English language qualifications

We provide two possible ways for learners to achieve the English language admission requirements for universities and other higher learning institutions.

**Cambridge English language route**

Learners who have higher English speaking and writing capabilities can achieve their English qualifications through one of several possible pathways (see diagram on the next page). You can also offer the Cambridge Secondary 1 English course to prepare your learners for one of the English options. The course is assessed through the Cambridge Checkpoint tests.
4. Designing the school curriculum

Main progression pathways

Cambridge Primary
- Cambridge Checkpoint
  - English
  - English as a second language

Cambridge Secondary 1
- Cambridge Checkpoint
  - English
  - English as a second language

Cambridge Secondary 2
- Cambridge IGCSE courses (2 options)
  - 0500/0522 English First Language
  - 0486 English Literature
- or
  - Cambridge Checkpoint
    - English
    - English as a second language

Cambridge Advanced
- Cambridge International AS Level courses (3 options)
  - 8693 English Language
  - 8695 Language & Literature in English
  - 9695 Literature in English
- International A Level course (1 option)
  - 9695 Literature in English

Alternative progression pathways

Cambridge Primary
- Cambridge Checkpoint
  - English
  - English as a second language

Cambridge Secondary 1
- Cambridge Checkpoint
  - English
  - English as a second language

Cambridge Secondary 2
- Cambridge IGCSE courses (2 options)
  - 0500/0522 English First Language
  - 0486 English Literature
- or
  - Cambridge Checkpoint
    - English
    - English as a second language

Cambridge Advanced
- Cambridge International AS Level courses (3 options)
  - 8693 English Language
  - 8695 Language & Literature in English
  - 9695 Literature in English

Cambridge English Language Assessment route

Our sister organisation, Cambridge English Language Assessment (formerly known as Cambridge ESOL), offers qualifications accepted by many universities, employers and governments, such as Cambridge English: Advanced (CAE). These qualifications are internationally accepted as an in-depth test of English language. In combination with the Cambridge Secondary 1 English as a second language course you can deliver a full programme of English language learning within the school curriculum. Make sure you are fully aware of the admission requirements for the universities and institutions your learners may want to attend.
4. Designing the school curriculum

4.7 Other subjects with alternative courses
Apart from English language, we have a number of other Cambridge Secondary 2 subjects that have alternative courses (detailed at the end of the document). This flexibility helps you identify and select specific courses to meet your teaching requirements.

Some of our alternative subject courses have particular restrictions (barred combinations) when it comes to the exams. For example, learners cannot take Cambridge IGCSE Mathematics and Cambridge IGCSE International Mathematics in the same exam series. These restrictions do not mean you cannot offer both courses; only that your learners cannot undertake the exams or associated assessments of the ‘barred combinations’ in the same examination series.

4.8 Cambridge programmes
This section provides an overview of the structure and nature of Cambridge programmes and qualifications. You can find more specific information, including a list of all the courses available at each stage, in the Cambridge Prospectus available on our website www.cie.org.uk

Cambridge programmes and qualifications have four stages, which lead seamlessly from primary through to secondary and pre-university years.

The programmes can be implemented together or separately, i.e. as ‘stand-alone’ programmes. Collectively, they are designed to provide a sequential programme of learning from primary through to the end of secondary education. Each programme builds upon the previous, and prepares for the next, revealing a progressive and staged approach to developing knowledge, conceptual understanding, skills and attitudes.

Another design feature of all Cambridge programmes is that they are intended to be adapted to the local context. Teachers will create a unique programme of study which is based on our programmes and adapted, where meaningful, to include local content and case studies. This will enhance the quality of teaching and learning, and ensure that the curriculum reflects national culture and heritage. Therefore it is important to distinguish the written Cambridge programmes, defined in our documentation and syllabuses, from the taught curriculum in the school, representing the local expression of our programmes.

<table>
<thead>
<tr>
<th>Cambridge Primary 5 to 11 years old*</th>
<th>Cambridge Secondary 1 11 to 14 years old*</th>
<th>Cambridge Secondary 2 14 to 16 years old*</th>
<th>Cambridge Advanced 16 to 19 years old*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cambridge Primary</td>
<td>Cambridge Secondary 1</td>
<td>Cambridge Secondary 2</td>
<td>Cambridge Advanced</td>
</tr>
<tr>
<td>Cambridge Primary Checkpoint</td>
<td>Cambridge Secondary 1 Checkpoint</td>
<td>Cambridge ICT Starters</td>
<td>Cambridge International</td>
</tr>
<tr>
<td>Cambridge ICT Starters</td>
<td></td>
<td></td>
<td>AS &amp; A Level</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cambridge Pre-U</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cambridge AICE</td>
</tr>
</tbody>
</table>

*Age ranges are for guidance only
4. Designing the school curriculum

Table 3: Cambridge programmes  (Note: More detail, including every subject syllabus, can be found on our website www.cie.org.uk)

<table>
<thead>
<tr>
<th>Cambridge programme</th>
<th>Subjects</th>
<th>Assessment</th>
</tr>
</thead>
</table>
| Cambridge Primary   | A six-stage programme that provides curriculum frameworks and assessment for each of the following subjects:  
- English  
- English as a second language  
- mathematics  
- science.  
Each stage reflects the teaching targets for a year group.  
The curriculum frameworks are divided into content areas called ‘strands’. Mathematics for example has five strands:  
- Number  
- Geometry  
- Measure  
- Handling data  
- Problem solving.  
| An optional testing structure with assessments that provide an international benchmark enabling teachers to:  
- identify learner strengths and weaknesses within individuals and class groups  
- develop further teaching and learning support using the information from the test results  
- provide learners with a statement of achievement (if they choose to do Cambridge Primary Checkpoint) at the end of their primary schooling. |

**Cambridge Primary Progression Tests:** From stage 3 of the curriculum. Can be given when the teacher feels the class is ready. Marked by the teachers in school.

**Cambridge Progress Checker:** An analysis tool for the Cambridge Primary Progression Tests. This allows you to compare a learner’s results against their class, school or other schools around the world teaching Cambridge Primary.

**Cambridge Primary Checkpoint:** Diagnostic tests for English, mathematics and science, taken at the end of the programme. Provides comprehensive feedback on the strengths and weaknesses of each learner.

No part of the curriculum is compulsory, so schools can select the elements that are right for their learners.

Develops the skills, knowledge and understanding that will prepare learners for a smooth transition to Cambridge Secondary 1.

Continued on next page.
4. Designing the school curriculum

<table>
<thead>
<tr>
<th>Cambridge programme</th>
<th>Subjects</th>
<th>Assessment</th>
</tr>
</thead>
</table>
| **Cambridge Secondary 1** | A three-stage programme which provides curriculum frameworks and assessment for each of the following subjects:  
- English  
- English as a second language  
- mathematics  
- science.  
Each stage reflects the teaching targets for a year group.  
The curriculum frameworks are divided into content areas called ‘strands’. Mathematics for example has four strands:  
- Number  
- Algebra  
- Geometry and measure  
- Handling data. | An optional testing structure with assessments that provide an international benchmark enabling teachers to:  
- identify learner strengths and weaknesses within individuals and class groups  
- develop further teaching and learning support using the information from the test results  
- provide learners with a statement of achievement (if they choose to do Cambridge Checkpoint) at the end of their lower secondary schooling.  
**Cambridge Secondary 1 Progression Tests:** For each stage of the curriculum frameworks. Can be given when the teacher feels the class is ready. Marked by the teachers in school.  
**Cambridge Progress Checker:** An analysis tool for the Cambridge Progression Tests. This allows you to compare a learner’s results against their class, school or other schools around the world teaching Cambridge Secondary 1.  
**Cambridge Checkpoint:** Diagnostic tests for English, mathematics and science taken at the end of the programme. Provides comprehensive feedback on the strengths and weaknesses of each learner. |

| **Cambridge Secondary 2** | A one- or two-year programme offering over 70 subjects for Cambridge IGCSE, including more than 30 language courses, and more than 40 subjects for Cambridge O Level.  
Schools can offer any combination of subjects. Each subject is certificated separately. | **Cambridge IGCSE:** Assessment takes place at the end of the course. There is a range of assessment options, including written, oral, coursework and practical assessment. Many subjects offer a tiered structure for different ability levels. Grades are benchmarked using eight internationally recognised grades, which have clear guidelines to explain the standard of achievement.  
**Cambridge O Level:** Assessments take place at the end of the course. There is a range of assessment options, including written, practical and oral assessment. Grades are benchmarked using six internationally recognised grades.  
Cambridge O Levels are no longer available to schools in administrative zones 1, 2 and 6. For more information on administrative zones, go to www.cie.org.uk/help and type ‘administrative zone’ into the search field. |

Typically for 11 to 14 year olds, it is structured through curriculum frameworks and organised into three stages. The curriculum frameworks reflect the teaching targets for each year group and provide comprehensive learning objectives. The learning objectives provide a structure for teaching and learning and a reference against which learners’ ability and understanding can be checked.

No part of the curriculum is compulsory, so schools can select the elements that are right for their learners.

Develops the skills, knowledge and understanding that will prepare learners for a smooth transition to Cambridge Secondary 2.

Typically for learners aged 14 to 16, it builds on the foundations of Cambridge Secondary 1. The syllabuses for qualifications within this programme use learner-centred and enquiry-based approaches to learning. They describe the knowledge, understanding and skills learners will develop and explain how these will be assessed.

Cambridge Secondary 2 provides excellent progression to the next stage of a Cambridge international education – Cambridge Advanced for 16 to 19 years – as well as other progression routes.
4. Designing the school curriculum

<table>
<thead>
<tr>
<th>Cambridge programme</th>
<th>Subjects</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cambridge Advanced</td>
<td>Typically for 16 to 19 year olds, it helps learners to develop deep understanding, and independent learning and critical thinking skills, which universities value highly. It builds on the foundations of Cambridge Secondary 2 and leads to entry to universities worldwide.</td>
<td>Offers a choice of over 80 different subjects: 55 for Cambridge International A Level and 28 for Cambridge Pre-U. Schools can offer almost any combination of the wide choice of subjects available. Learners receive a certificated grade for each subject they take.</td>
</tr>
</tbody>
</table>

4.9 Cambridge Primary and Cambridge Secondary 1

Both Cambridge Primary and Cambridge Secondary 1 programmes provide a core curriculum of three subject areas, leaving plenty of subject choices to further broaden the curriculum. Studying all of the subjects is not compulsory and they can be integrated into a local or national curriculum. The assessment structure for each programme is also optional, giving you the flexibility to decide how and when you want to assess your learners. We produce a teacher guide for each subject curriculum area, which brings together schemes of work, sample lesson plans, planning and implementation guidance. There are also detailed schemes of work with suggestions for activities, resources and timings for each learning objective within the curriculum frameworks.

For Cambridge Primary and Cambridge Secondary 1, the emphasis of assessment is on supporting student learning and benchmarking. Cambridge Primary Checkpoint and Cambridge Checkpoint – diagnostic tests at the end of both programmes – are also recorded by statements of achievement and detailed feedback reports for both the learner and the school.

4.10 Cambridge Secondary 2

The Cambridge Secondary 2 programme has an extensive range of subjects available at Cambridge IGCSE or Cambridge O Level, allowing you to design a broad and balanced curriculum, or a more specialised one, depending on your educational aims. Some schools opt for a specialised programme with a number of compulsory subjects and only a few (or
even no) learner electives. Others give learners more choice. Decisions about offering choice need to be balanced against the cost of resourcing the curriculum. The number of staff needed to teach the school curriculum, and the number and type of necessary specialist facilities, are likely to be greater the more courses are offered.

Cambridge IGCSE and Cambridge O Level can be studied over one or two years. In most schools learners study up to 10 subjects, and very occasionally more, over a period of two years. In others, learners study a reduced number of subjects, typically about six, over a single year. Reducing the Cambridge Secondary 2 programme to a one-year period has a direct influence on the balance of the curriculum, as the curriculum will be narrower for any individual learner studying fewer subjects. Some schools allow very able learners to study for exams in selected subjects a year earlier.

Some Cambridge IGCSE subjects offer two study options. These are referred to as ‘core’ and ‘supplement’ curriculum options. The supplementary curriculum can be studied in addition to the core curriculum. This provides an opportunity to study the subject in more depth and experience wider coverage of the content within additional learning contexts.

What is a Cambridge IGCSE?

IGCSE stands for International General Certificate of Secondary Education. Over 70 subjects are available, including more than 30 language courses, offering a variety of routes for learners of different abilities. Schools can offer any combination of subjects and each subject is certificated separately.

- A Cambridge IGCSE is the formal recognition of a learner’s achievement at the end of a particular subject course. The content of the course is based on an international curriculum developed for 14 to 16 year olds (although it can be studied by younger or older learners).
- The content of each course is created to suit a wide variety of schools and avoid cultural bias. It encourages learner-centred and enquiry-based approaches to learning. It helps to develop creative thinking, enquiry and problem-solving skills.
- Each qualification is made up of a number of assessments (called components), the majority of which take place at the end of the course. The methods of assessment include written papers, orals, coursework and practicals.
- Learners have to pass a particular combination of these assessments to achieve the qualification. The majority of syllabuses offer learners and teachers different assessment options through which to achieve the qualification. This broadens opportunities for students to demonstrate their learning, particularly when their first language is not English.
- In the UK Cambridge IGCSE is accepted as an equivalent to the GCSE.
- Cambridge IGCSE assessment standards are aligned to those of the UK GCSE and are equivalent on a subject-for-subject, grade-for-grade basis. The grades awarded are A* to G, with A* being the highest, and are designed to cover a wide ability range.
- The main differences between Cambridge IGCSE and GCSEs are in the syllabus content and methods of assessment.
4. Designing the school curriculum

- Most IGCSE subjects have an optional coursework element, whereas with many GCSE subjects it is compulsory.
- The content of IGCSE subjects is tailored to the multicultural, multilingual audience they serve, in a way the GCSE is not.
- Cambridge IGCSE subjects are linear. Subject understanding of the whole course is assessed; it is not broken down into modules.

What is a Cambridge O Level?
O Level stands for Ordinary Level, and is an internationally recognised qualification equivalent to the UK General Certificate of Secondary Education (GCSE) and Cambridge IGCSE. Over 50 subjects are available to schools, except those in administrative zones 1, 2 and 6.

- A Cambridge O Level is the formal recognition of a learner’s achievement at the end of a particular subject course. The content of the course is based on an international curriculum developed for 14 to 16 year olds (although it can be studied by younger or older learners).
- The qualifications were developed from the academically focused O Level introduced in the UK in the 1950s and eventually replaced by the GCSE.
- The content of each Cambridge O Level syllabus is designed especially for an international market, and is sensitive to the needs of different countries.
- Each qualification is made up of a number of assessments (called components), the majority of which take place at the end of the course. The methods of assessment include written papers, orals and practicals.
- Learners have to pass a particular combination of these assessments to achieve the qualification. Some of the syllabuses offer learners and teachers different assessment options through which to achieve the qualification. This broadens opportunities for students to demonstrate their learning, particularly when their first language is not English.
- In the UK, Cambridge O Level is accepted as an equivalent to the GCSE.

- Cambridge O Level assessment standards are aligned to those of the GCSE, and are equivalent on a subject-for-subject, grade-for-grade basis. The grades awarded are A* to E, with A* being the highest.

The main difference between Cambridge O Level and GCSE and Cambridge IGCSE is the grade range: O Levels are graded on an A* to E scale, while Cambridge IGCSEs are on an A* to G scale, so providing for a slightly wider ability range. Syllabus content and assessments are generally very similar for Cambridge O Level and Cambridge IGCSE, although in many subjects the assessment model at Cambridge IGCSE additionally includes coursework options.

4.11 Cambridge Advanced
By the time learners begin studying the Cambridge Advanced programme they are likely to want to access more specialised programmes of study depending upon their current interests, ambitions for higher learning and potential career paths. However, it is still possible to study a wide range of different subjects at this level, creating a broad programme of study, and the co-curricular programme can add breath and balance to the educational experience.

What are Cambridge International AS and A Level?
- A Level stands for Advanced Level and AS Level stands for Advanced Subsidiary. An AS Level contains half the content of the corresponding A Level and can be completed in one year. This allows for flexibility, as learners can complete AS Levels as qualifications in their own right or as the first half of an A Level, for which they are allowed to carry forward their AS result. Some learners take all the assessments for their full A Level at the end of the second year (see the following section, ‘Planning a Cambridge International AS and A Level programme’).
- Cambridge International AS and A Level are the names of the qualifications that formally recognise a learner’s achievement at the end of a particular subject course. The content of the course is more in-depth than Cambridge IGCSE or O Level. It is based on an international curriculum developed for 16 to 19 year olds preparing for higher education.
4. Designing the school curriculum

- The assessment standards of Cambridge International A Levels are aligned to those of UK A Levels and are equivalent on a subject-for-subject, grade-for-grade basis. The grades awarded are A* to E, with A* being the highest. There is no A* grading in the certification of Cambridge International AS Levels. Cambridge International A and AS Levels are, therefore, viewed as equivalent to AS and A Level qualifications taken by learners in the UK.
- The main differences between Cambridge International AS and A Level qualifications and the UK AS and A Level qualifications exist in the syllabus content and methods of assessment:
  - Cambridge International A Levels are different in structure from UK A Levels. Whereas UK A Levels are modular and learners can retake individual components (assessments), the Cambridge International A Levels have a linear structure which encourages a more integrated study of the entire subject.
  - The context or examples used in the syllabuses and assessments are designed to be culturally sensitive and to provide an international context.
  - There is a wider range of subjects available at Cambridge International A Level, for example the wide range of languages offered.

What is Cambridge Pre-U?
- Cambridge Pre-U is a new qualification designed to help schools equip learners with the skills they need to succeed at university. The qualification formally recognises a learner’s achievement at the end of a particular subject course. It is based on a curriculum that promotes deep understanding of subjects through specialisation.
- Learners can take Cambridge Pre-U qualifications separately, and receive grades for each one, or choose three Principal Subjects to achieve the Cambridge Pre-U Diploma. To achieve the Diploma they also need to complete Global Perspectives and Research, a qualification that gives learners the chance to develop independent thinking, research and communication skills.
- Cambridge Pre-U short courses are also available in some subjects. These are typically one-year courses with exams taken at the end.
- Cambridge Pre-U Principal Subjects are assessed at the end of the two-year course.
- Cambridge Pre-U Principal Subjects are recognised by UK universities as equivalent to A Levels.
- Cambridge Pre-U qualifications have an extended grade range at the top to recognise outstanding achievement. The grades awarded are reported on a nine-grade scale, reflecting three broad bands of achievement: Distinction, Merit and Pass. Each band is sub-divided into three grades: Distinction 1, 2, 3 (D1, D2, D3), Merit 1, 2, 3 (M1, M2, M3) and Pass 1, 2, 3 (P1, P2, P3). Each subject a learner takes at Cambridge Pre-U receives a separate grade, for example, D3.

Schools outside the UK need our approval before they offer Cambridge Pre-U Principal Subjects. If you are interested in offering Cambridge Pre-U Principal Subjects outside the UK, please contact us at info@cie.org.uk

Planning a Cambridge International AS and A Level programme
There are three different approaches for planning and scheduling Cambridge International A Level (see Table 4). Each approach will have a different effect on the structure of the school curriculum and the school timetable. For example, Approach 2 allows ‘multi-levelling’ where learners may be studying both Cambridge International AS and A Level courses in the same year.

As a consequence, an AS Biology class may have learners from the two final school years studying for the Cambridge International AS Level qualification. Approach 3 has the potential to provide the broadest and most balanced curriculum but the compromise is less specialisation. This needs to be considered in light of higher education entry requirements. In many countries AS Level standards are accepted but in others they are not.
4. Designing the school curriculum

Table 4: Cambridge International AS and A Level assessment options

<table>
<thead>
<tr>
<th>Approach 1</th>
<th>Approach 2</th>
<th>Approach 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>A ‘non-staged’ assessment route. Learners take all papers of the Cambridge International A Level course in the same examination series, usually at the end of the second year of study.</td>
<td>A ‘staged’ assessment route. Learners take the Cambridge International AS Level in Year 1 and/or Year 2 and complete the final Cambridge International A Level in the second series.</td>
<td>Cambridge International AS Level only. Learners take the Cambridge International AS Level exams only. The syllabus content for Cambridge International AS Level is half of a Cambridge International A Level programme.</td>
</tr>
</tbody>
</table>
| A learner who successfully completes the non-staged option will normally have studied three or four Cambridge International A Level courses. | A learner who successfully completes the staged assessment option might have outcomes that include:  
- three Cambridge International A Levels and one AS Level (first example below)  
- two Cambridge International A Levels and four AS Levels (second example below)  
- three Cambridge International A Levels and two AS Levels (third example below). | A learner who successfully completes the Cambridge International AS Level only assessment option might have studied eight Cambridge International AS Level courses, completing four in each year. This could represent a broad and balanced curriculum but with less specialisation and depth. |

In this example the learner has selected a programme that will result in three Cambridge International A Levels in History, Geography and French and one AS Level in Global Perspectives.

<table>
<thead>
<tr>
<th>Curriculum level</th>
<th>Subjects selected for study</th>
</tr>
</thead>
<tbody>
<tr>
<td>First year</td>
<td>AS Level Global Perspectives</td>
</tr>
<tr>
<td>Second year</td>
<td>AS Level History</td>
</tr>
</tbody>
</table>

In the following example a learner has selected a programme that will result in two Cambridge International A Levels in Mathematics and Economics. They have broadened their programme by selecting an additional two AS Level subjects in the final year. Together with their first year AS Level subjects they will achieve four Cambridge International AS Level qualifications: English Literature, Biology, Art and Design and Global Perspectives.

<table>
<thead>
<tr>
<th>Curriculum level</th>
<th>Subjects selected for study</th>
</tr>
</thead>
<tbody>
<tr>
<td>First year</td>
<td>AS Level Literature – English</td>
</tr>
<tr>
<td>Second year</td>
<td>AS Level Art &amp; Design</td>
</tr>
</tbody>
</table>
4. Designing the school curriculum

In the example below the learner follows a more specialised programme, resulting in three Cambridge International A Levels supported by two Cambridge International AS Level awards. In this case Cambridge International AS Level Business Studies reinforces the mathematics–economics combination, with a possible career in the financial world in mind. On the other hand this could be criticised as being over specialised, and it might be preferable for the learner to select a different sort of discipline, for example art or global perspectives.

<table>
<thead>
<tr>
<th>Curriculum level</th>
<th>Subjects selected for study</th>
</tr>
</thead>
<tbody>
<tr>
<td>First year</td>
<td>AS Level Literature – English</td>
</tr>
<tr>
<td>Second year</td>
<td>A Level Literature – English</td>
</tr>
</tbody>
</table>

Learners need guidance to ensure that their intended course of study provides the learning and qualifications they need, either for admission into higher level studies or for pursuing a particular career. Considering admission requirements, for both national and international universities and other higher learning institutions, is important when constructing your curriculum and qualification pathways.

4.12 Timetabling the curriculum

While it is important to start the curriculum planning process by designing a school curriculum that delivers the school’s mission, there are also practical timetabling issues that will need to be considered from the outset. These are largely determined by school context, local laws and practices, and the scale of the school budget to support resourcing. This section aims to briefly highlight some of these.

Your school vision, mission and educational aims will influence a number of timetabling decisions including:

- How much flexibility you build into the curriculum to allow learners to select options and, where applicable, options within subjects.
- The extent, nature of co-curricular activities and expectations or requirements for learner participation in these.
- The inclusion of any additional courses or programmes you want to offer that do not end in some form of external assessment, such as religious education, values education, cultural or heritage courses, student leadership and career experience programmes. Decisions about whether or not these are compulsory.
- Whether you introduce multi-levelling so that learners in different year groups can be scheduled in the same class depending on their needs.
- The length of the school day, number of days’ schooling a week and length of the school year.

The timetable has to be developed within the resource constraints of your school. These constraints include:
- number of teaching and support staff
- staff contracts stipulating conditions and expectations
- subject expertise and experience of the teaching staff
- availability of classrooms and specialist rooms – for example, science laboratories and technology rooms
- available resources for language support, special educational needs and gifted learning programmes.

Factors influencing timetable decisions can also be considered in terms of internal and external drivers.
4. Designing the school curriculum

Table 5: Factors influencing timetable decisions

<table>
<thead>
<tr>
<th>Internal influences</th>
<th>External influences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organisation structure</td>
<td>Cambridge programme requirements</td>
</tr>
<tr>
<td>Resources including staff and facilities</td>
<td>Cambridge qualification requirements</td>
</tr>
<tr>
<td>Compulsory subjects or options (degree of learner choice)</td>
<td>Recommended hours a week for each subject</td>
</tr>
<tr>
<td>English language capability of learners</td>
<td>National curriculum and qualification requirements</td>
</tr>
<tr>
<td>Multi-levelling or fixed school years</td>
<td>External agency requirements, for example, ministry of education</td>
</tr>
<tr>
<td>Co-curriculum. Additional courses and activities outside core curriculum</td>
<td>University admissions criteria</td>
</tr>
<tr>
<td>Employment contracts</td>
<td>Requirement to take exams in English</td>
</tr>
<tr>
<td></td>
<td>Core vs supplementary subject options</td>
</tr>
</tbody>
</table>

When constructing the timetable you have to decide how much teaching time to allocate to each subject. This can be expressed in hours a week but, because schools operate different annual calendars, it is often better calculated as hours per year. This equates to the number of periods per week multiplied by the duration of these allocated periods and the number of weeks in the school year. Some schools operate timetables on a 10-day (two-weekly) cycle or some other system of rotation, for example an eight-day cycle. This can create flexibility.

We recommend the following guided learning hour allocations for our international programmes:

<table>
<thead>
<tr>
<th>Programme</th>
<th>Recommended weekly teaching time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cambridge Secondary 1</td>
<td>Approximately three to four hours per subject per week.</td>
</tr>
<tr>
<td>Cambridge Secondary 2</td>
<td>About 130 hours* per subject completed in one year (if scheduled for one year) or, more normally, spread out over two years with learners doing more subjects.</td>
</tr>
</tbody>
</table>
| Cambridge Advanced         | • Staged option: 180 hours* per subject for each Cambridge International AS Level course.  
                           | • Non-staged option: 360 hours* per subject over the two-year course.    |

* Includes teaching time and directed study. Does not account for the independent study the learner is expected to carry out. We recommend that learners are given opportunities for independent study outside of normal timetabled lessons for Cambridge Secondary 2 and Cambridge Advanced courses.
4. Designing the school curriculum

There are a large variety of models you can follow for structuring learning hours into the timetable. The following example is based on practice in one Cambridge school and is intended to be illustrative of one model. Detailed consideration of different timetable options is beyond the scope of this guide.

Example: Monday’s timetable for Years 8 and 12

<table>
<thead>
<tr>
<th>Period</th>
<th>Time of day</th>
<th>Year 8 class</th>
<th>Year 12 class</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8.00–8.40</td>
<td>English</td>
<td>Art</td>
</tr>
<tr>
<td>2</td>
<td>8.40–9.20</td>
<td>Arabic</td>
<td>Business Studies</td>
</tr>
<tr>
<td>Break</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>9.40–10.20</td>
<td>Religious Studies</td>
<td>Mathematics A</td>
</tr>
<tr>
<td>4</td>
<td>10.20–11.00</td>
<td>Mathematics</td>
<td>Mathematics B</td>
</tr>
<tr>
<td>5</td>
<td>11.00–11.40</td>
<td>Science</td>
<td>English</td>
</tr>
<tr>
<td>6</td>
<td>11.40–12.20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lunch</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>13.00–13.40</td>
<td>Physical Education</td>
<td>Chemistry/History/ Geography</td>
</tr>
<tr>
<td>8</td>
<td>13.40–14.20</td>
<td>Second Language (French, Mandarin, Spanish)</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>14.20–15.00</td>
<td>Geography</td>
<td></td>
</tr>
</tbody>
</table>

In Year 12 (higher) levels subjects are mostly scheduled with double periods, providing 80 minutes for lessons. Each subject has equal amounts of allocated teaching time, with three double periods and one single period throughout the week, equating to four hours and 40 minutes per subject per week. Because of the greater degree of specialisation at this level, it is possible for the school to schedule subjects to be taught at the same time (for example maths A and maths B (periods 3 and 4) and chemistry, history and geography (period 7) based on the fact that no learners, or as few as possible, want to study more than one of the combinations of subjects timetabled together).

Some schools have longer school days for older learners so that more time is available. This could be every school day or on specific days. Extending the day to accommodate the curriculum is a way to increase the amount of teaching time for subjects, or to increase the number of subjects on offer. Depending on a learner’s choice of subjects they may have study periods allocated in the school day to work on projects or in the library. This is consistent with the aim of creating independent and responsible learners but will also depend on the school’s ability to provide the facilities learners need and their attitude to learners having time to manage on their own.

The length of timetabled periods can have an impact on the types of pedagogy used in classrooms. Teachers will often adapt their teaching style and the types of activities they create to fit the available lesson duration. There is a tendency for shorter periods to become dominated by teacher-led learning with limited use of active learning activities. In the same way, longer lessons can become wasteful if teachers have not planned and prepared enough work to fill the entire lesson. As part of the school’s quality assurance programme you need to make sure teachers have the right amount of time for engaging and effective lessons. Ideally, there should be enough time for the teacher to run several different activities, including active learning and skill development opportunities, which collectively fulfil the prescribed requirements of the syllabus or curriculum.
4. Designing the school curriculum

4.13 Facilities to support the curriculum

In addition to effective teachers, schools need to provide suitable learning environments supportive of the curriculum. Schools will have very different resourcing budgets but, at a minimum, learning spaces should support your teachers in delivering interactive and stimulating lessons. Each learning space should be suitable for the number of students and the type of activities that will take place in them. Things to think about here include:

- Activities that will take place for particular coursework components.
- Subjects that require particular equipment, resources and differentiated learning spaces, such as art, physical education, music and dance.
- Science laboratories and the necessary safety requirements. You can find out more about our requirements in our *Planning for Practical Science* document available at www.cie.org.uk/help
- Any cultural issues that may impact the way you set up your learning environments.

Libraries, often called media or learning resource centres, provide areas for learners to work with their teachers on research projects or individual assignments during scheduled classes. Learners can also use these facilities during scheduled study periods, if they have them, during break times and before and after school. Some schools link with local community facilities to provide this resource. Usually these areas are also equipped with computers and other electronic resources connected to the school’s internal network or intranet, and to the internet. Ideally school libraries (or some other location) will have dedicated resources to support the professional development of teaching staff, for example:

- professional development books and magazines
- electronic journals
- access to professional teacher sites and forums
- access to subject websites
- written reference materials.

Apart from the ICT resources located in the library, teachers will often have access to both the school’s intranet and the internet in their classrooms and workspaces. Many traditional teaching resources are being replaced or supplemented by online resources and commercially purchased, or free-to-download, software resources.

Learners often have access to computers and the internet in the classroom. This can enhance the teaching programme by providing opportunities for differentiated learning approaches that target the individual learning needs of each student. Computers in classrooms can also provide additional opportunities for extension work for more capable learners, as well as providing access to additional support or resources for learners with particular needs. For these reasons, some schools provide learners with laptops or tablets for use at school.

To offer our examinations you must make sure your facilities and processes meet our regulations. These regulations are published in the *Cambridge Handbook*. We send a hard copy of the handbook to exams officers in our registered schools each year. It is also available on our website at www.cie.org.uk/examsofficers

One of our requirements is that each school has secure processes and storage facilities for receiving and storing examination question papers and other examination materials, including completed answer scripts. We recommend that you read the relevant sections of the *Cambridge Handbook* to help you plan the introduction of your new curriculum.
5 Leadership, curriculum evaluation and building school capacity

This chapter briefly considers the important role played by leadership, evaluation of the curriculum, evaluation of teachers linked to professional development and the development of specific school policies and practices. These are all important to help ensure that the curriculum learners actually experience is as close as possible to the curriculum the school intends them to experience.

5.1 Leadership

Schools offering our programmes operate using many different administrative structures. Many are state funded while others are independent. Some schools are proprietary and commercial while others are run by school boards and are not for profit. Relevant in the context of this guide are the principles and practices of leadership that are most likely to support the development of an outstanding curriculum. These can be made to work in a variety of different structures. This chapter provides an overview of some important principles and practices relating to leadership of curriculum, evaluation and professional development.

Within the senior administrative team of a school different management responsibilities will be assigned to different individuals. Leadership, however, should be identified as a collective responsibility irrespective of how the administrative hierarchy of the school is structured. Leadership in this context is a process rather than a position of authority. It involves creating, implementing, monitoring, reviewing and refining practices and systems so that student learning is improved. Strong leadership is necessary for the design and development of an effective curriculum and overall educational excellence in a school.

Leadership and management functions relating to the curriculum include:

1. Curriculum planning and evaluation.
2. Instructional leadership.
3. Teacher recruitment and evaluation.
4. Professional development (PD).
5. Development and implementation of quality assurance policies and procedures.
7. Involvement with the school and local community.
9. Timetable (considered in the previous chapter).
10. Student admissions, progression through the school and guidance on to higher education.

5.2 Curriculum planning and evaluation

Planning the curriculum has been considered in earlier chapters. Periodic curriculum evaluation, defined here as evidenced-based judgement with a view to improving practice, is a critical process that supports ongoing improvement. A rigorous evaluation process, together with sound quality assurance supported by a targeted professional development programme, will help ensure that the curriculum is accomplishing its purpose. Evaluation processes will generate important feedback on what has been achieved to date and identify what needs more work. Some of the key questions that evaluations should address are identified in Table 6, although this is by no means a complete list.
Many schools use a recognised evaluation/accreditation framework to support the process of curriculum and whole-school evaluation. These will provide their own list of questions, processes and criteria. Often these are external, provided by national or international authorities. What is important is that they lead to school improvement and that the whole school community is involved in relevant evaluation and development activities so that everyone takes ownership of the process.

Table 6: Curriculum planning and evaluation: Some essential questions

<table>
<thead>
<tr>
<th>Area for review</th>
<th>Examples of questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curriculum planning</td>
<td>Does the school’s curriculum:</td>
</tr>
<tr>
<td></td>
<td>• deliver the most appropriate programme of study to support the school’s mission and educational aims?</td>
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<tr>
<td></td>
<td>• deliver a balanced, coherent and consistent programme of learning with clear and smooth progression routes designed for the needs of learners?</td>
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<td></td>
<td>• appropriately challenge all ability levels?</td>
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<td></td>
<td>• recognise the language background of learners and provide them with the support they need to access the curriculum?</td>
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<tr>
<td></td>
<td>• provide sufficient opportunity for learner choice?</td>
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<tr>
<td></td>
<td>• provide pathways that enable learners to achieve the entrance or admission requirements for university, higher education courses and employment?</td>
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<tr>
<td></td>
<td>• provide a co-curricular programme that supports the school’s mission?</td>
</tr>
<tr>
<td>Quality assurance policies and practices</td>
<td>• Are your quality assurance policies and practices fit for purpose, clear in their intent and easily understood?</td>
</tr>
<tr>
<td></td>
<td>• How do you know that the school’s quality assurance policies are being adhered to?</td>
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<tr>
<td></td>
<td>• What areas need additional quality assurance policies and practices?</td>
</tr>
<tr>
<td>Teacher evaluation</td>
<td>• Are the stated aims of the curriculum being addressed within the teaching programme?</td>
</tr>
<tr>
<td>Fulfilling Cambridge (and other qualification) subject requirements</td>
<td>• Are teachers teaching to the syllabus correctly, covering all the prescribed content and skills?</td>
</tr>
<tr>
<td>Effective delivery of learning and meeting learner needs</td>
<td>• Are there evidence that teachers are using a variety of appropriate teaching strategies and learning activities?</td>
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<tr>
<td></td>
<td>• Are the assessment objectives and methodology for assessment being respected?</td>
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<tr>
<td></td>
<td>• Are coursework components being correctly implemented and supported?</td>
</tr>
<tr>
<td></td>
<td>• Is there evidence that teachers are using formative assessment appropriately to inform their teaching practice?</td>
</tr>
<tr>
<td></td>
<td>• Is there evidence that teachers are differentiating their practice to the needs of individual learners?</td>
</tr>
<tr>
<td></td>
<td>• Do learning activities provide opportunities for the development of the desired skills and learner attributes?</td>
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<tr>
<td></td>
<td>• How are the views of learners taken into account?</td>
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<tr>
<td></td>
<td>• Is there a process of lesson observation with supportive feedback to effect improvements in teaching and learning?</td>
</tr>
<tr>
<td></td>
<td>• Are lessons supported with sufficient resources, suitable for the level of study?</td>
</tr>
<tr>
<td></td>
<td>• Do lessons include topics of national relevance by structuring and delivering content in local contexts?</td>
</tr>
</tbody>
</table>
### 5. Leadership, curriculum evaluation and building school capacity

| Professional development | • Are all teachers engaging in suitable professional development activities to ensure successful implementation of the desired curriculum?  
|                        | • Is your professional development programme meeting the specific needs of teachers and the requirements of the strategic plan?  
|                        | • Is the balance between internal and external professional development opportunities appropriate?  
|                        | • What evidence do you have that the professional development programme is positively influencing classroom practice or learner achievement? |
| Resources and facilities | • Are facilities and administrative resources appropriate to support teaching programmes?  
|                        | • Do learners and teachers have access to appropriate library/media centre and IT resources?  
|                        | • Are appropriate student welfare and learning support services provided?  
|                        | • Do you have appropriate facilities for the security of examination material? |
| Formal examinations and qualifications | • Do you have an exams officer to manage the administration of any Cambridge exams you offer?  
|                        | • Is there a process in place to make sure the exams officer carries out their duties in line with Cambridge requirements?  
|                        | • Are the Cambridge (and national) examination requirements and procedures being strictly adhered to?  
|                        | • Are the mechanisms for checking accuracy in, and completeness of, learner data sufficient?  
|                        | • Are the policies regarding authenticity of learners’ work being followed?  
|                        | • Are the systems for entering, storing and exchanging learner records secure, with appropriate back-up and retrieval safeguards? |
| Communication and evaluation methodology | • How can you improve your evaluation procedures to get more meaningful or accurate information?  
|                        | • How is this information shared or disseminated to other stakeholders?  
|                        | • How can the school become more effective in making use of this information to refine and further develop the curriculum?  
|                        | • Is there effective communication and exchange of information with external agencies, for example, Cambridge, other qualification organisations, ministries and other governmental agencies?  
|                        | • Are learner and teacher schedules (timetables) and calendars of events accurate, clear and informative? |
5. Leadership, curriculum evaluation and building school capacity

Larger scale school-wide evaluations, if they are to be done thoroughly, are very time consuming. For this reason they are conducted only occasionally. It is important that smaller evaluation cycles are built into the regular operations of the school so that evaluation and development are seen as a cyclical and ongoing process. Figure 1 provides one example of a basic process model that focuses on the area of the evaluation and development of assessment and pedagogical practices linking these to professional development.

**Figure 1: A process model for pedagogy and assessment development**

1. Research and familiarisation with best practice (use of local, Cambridge and international resources)
2. Collective agreement on what are the appropriate pedagogy and assessment practices
3. Review current pedagogy and assessment policies and practices including evidence about what is happening in teaching as well as what is prescribed
4. Identify and decide upon professional development needs
5. Identify appropriate professional development support (provided by Cambridge or another source)
6. Formulate new ‘best practice’ policies and methodologies
7. Implement pedagogy and assessment strategies and practices
8. Monitoring of practice and review of impact on learner achievement

5.3 Instructional leadership

In a school the primary role of leadership involves maintaining a clear focus on learning as an activity. This includes creating favourable conditions and encouraging a dialogue about learning to develop a shared sense of leadership throughout the school, and a shared sense of accountability. This helps to create a learning culture with clearly accepted and understood objectives as well as high expectations for both teachers and learners. Leaders have the responsibility of building school capacity in a way that creates the conditions necessary for teachers’ potential to be fully realised. At least some of the senior administrators in the school should be actively involved with teachers, observing teaching and learning, and engaging in a professional discussion with teachers about what is happening in the classroom.
5. Leadership, curriculum evaluation and building school capacity

This professional link can become a very powerful motivational force for teaching professionals, and critical for senior administrators in developing a deep appreciation of what is actually happening in the school. The learner voice is also very important in understanding their perspective on the curriculum and the quality of its implementation.

Administrators need to support teachers so that they can concentrate on student learning and planning teaching. The right structure and the appropriate number of staff to successfully implement the curriculum need to be resourced. Roles and responsibilities need to be well defined and clearly communicated. Ideally planning time should be built into teachers’ schedules so that they can work collaboratively in teams (in academic departments or year groups) on developing learning activities. Where possible and practical teachers should be encouraged to visit each other’s class and provide peer support to their colleagues. This is particularly important in developing less experienced teachers and a very cost-effective form of professional development.

Teachers play a leadership role in that they are involved in creating, implementing, monitoring, reviewing and refining practices and systems so that student learning is improved. Nurturing and using teacher talent in this way creates a virtuous circle of motivation, desire to learn more, commitment and enhanced practice. Working collaboratively to resolve collective challenges can also create a shared sense of purpose and a powerful instrument of change.

5.4 Teacher recruitment and evaluation

Because good teaching is such a powerful influence on student learning nothing is more important than ensuring teaching is as consistently excellent as it can possibly be. Teachers should be recruited who share the school’s vision and, as far as possible, display and support the teacher/learner attributes. Thoughtful, well-designed teacher evaluation and professional development, in a culture where it is valued and understood, is the best way to improve teaching practice.

Teacher evaluation is a very important quality assurance process. Schools will operate different systems, often prescribed by national authorities.

While the summative element of judgement or appraisal is important, the formative aspect is even more so. In our experience the most effective forms of evaluation involve teachers in at least an element of reflection against clearly defined criteria. These criteria include the learner/teacher attributes as well as their performance in terms of learner results and value added to student learning. Reflective practice, one of the key concepts in the learner/teacher attributes, is reinforced when evaluation requires it.

Many schools also involve learners in providing feedback to teachers, whether formally or informally. Learner evaluations of their classes, when they are carefully designed and non-threatening, are a powerful practice that provides valuable formative feedback to teachers.

Teacher evaluation should be linked to the school’s professional development programme. This ensures that areas identified for development during the evaluation are supported by professional development.

5.5 Professional development

Professional development (PD) includes a wide range of activities and practices that support ongoing and evidenced-based reflective practice (see Figure 2: The reflective cycle). This involves participants in:

- reflecting on current practice through the teacher evaluation process, which will identify PD priorities
- working with peers to share ideas and to observe, record and give feedback on classroom experiences
- reviewing relevant resources to introduce and become familiar with new concepts
- accessing recognised local or international educational expertise to enhance understanding
- planning, trialling, evaluating and modifying new practices and resources
- using collaborative support structures and processes, including peer critiquing and online services.
5. Leadership, curriculum evaluation and building school capacity

PD needs are likely to span the following areas:

- subject and resource support, including familiarisation with subject content, learning activities and skill acquisition and development
- enhancing their understanding of pedagogic and assessment practices and their planning and integration into teaching programmes
- building professional capacity through collaboration with other teaching professionals in the school and through inter-school subject cluster groups or networking
- opportunities to upgrade professional qualifications, with the potential to become teacher-trainers or examiners, or to contribute in other ways that advance the introduction of the curriculum and the uptake of the associated new pedagogy and assessment methodology.

PD needs will be situational. Teachers new to the profession and/or to Cambridge programmes will need to be closely supported by experienced colleagues and attend appropriately targeted training. Experienced teachers will want to improve their professional practice by completing more advanced PD programmes, possibly qualifications, and become involved in professional communities of practice. In this way participants reflect on their experience of working within a school environment through stimulus from resources, courses and professional collaboration. This gives participants material (both experimental and theoretical) on which they can reflect and evaluate their current practice. Reflective PD encourages individuals to develop action plans and experiment with new strategies. This experimentation gives them additional experiences on which they can reflect, and consequently more opportunities for professional growth.

PD opportunities should not just be for teachers. The school leadership team and teaching support staff will also contribute to the successful implementation of the curriculum and will therefore benefit from relevant and constructive professional development.

For more information about our professional development services see Chapter 6 ‘Working with us’ and our website.

5.6 Developing and implementing quality assurance policies and procedures

Policies, supported by clear procedures, should provide teachers and learners (and where appropriate, parents) with clear direction and guidance derived from the school’s mission and aims. They need to be understood by the school community and enforced through quality assurance practices, including teacher evaluation. Part of curriculum evaluation will be the review and development of these policies as part of the curriculum planning process.
5. Leadership, curriculum evaluation and building school capacity

In addition to teacher evaluation introduced in the previous section, those that relate to the curriculum usually include:

- **Language Policy:** Every school will have its own language profile so it is important that this is reflected in a policy that recognises the language needs of different groups of learners and teachers. It will consider the solution to questions including: How will English as a second language be supported? How will learners be encouraged to develop their first or best language? What responsibilities do teachers have to support language learning?

- **Assessment Policy:** How often are internal summative grading and reporting conducted? What are the grading procedures and how does this relate to the criterion system used by Cambridge and/or other qualifications taught in the school? How is assessment for learning supported? What can learners and parents expect from teachers in terms of reporting and detailed feedback on specific assignments and over specified lengths of time?

- **Homework Policy:** What are the expectations? How is this organised to ensure that classroom learning is supported in a way that is balanced?

- **Special Educational Needs and Gifted and Talented Policy:** What are the expectations for teachers to differentiate so that all learners are appropriately challenged? How does the school support learners with specific needs?

- **Co-curricular expectations:** What does the school provide for learners beyond regular classes? How does this fit in with teacher contracts and expectations? How does the school work with the local community to support learner participation in activities that it cannot provide itself, or are better provided outside the school?

- **Discipline Policy:** What is the code of conduct for teachers and the code of conduct for learners? How is the code of conduct supported and enforced? What support is provided to learners who display discipline problems?

5.7 Managing change

Introducing Cambridge curricula for the first time will present challenges, particularly if teaching staff are not familiar with the programmes or do not have a background of relevant experience. The high value placed on teachers becoming creative professionals, who develop their own schemes of work and apply the syllabus to the needs of their learners in the context of the school, means that preparation is vital. To a lesser extent this is also true for experienced staff who will also need time to plan and refresh their lesson plans, recognising that every class of learners is unique.

Teachers new to Cambridge will be involved in:

- becoming familiar with subject requirements, including assessments, and planning how to satisfy those requirements
- writing or rewriting schemes of work and producing new teaching material
- accessing and evaluating subject resources, for example, textbooks, websites, workbooks
- planning and trialling teaching strategies and assessment practices.

School administrators need to be aware that supporting teachers, so that they have enough time to prepare properly and have access to professional development, will support successful implementation. One way of managing teachers’ workload is to implement the curriculum in stages. A pre-implementation year could be used before full implementation to give teachers the opportunity to review, discuss, prepare and evaluate the new material and learning approaches. The opportunity to trial units of work and practise assessment tasks will help to build teachers’ confidence and develop a sense of purpose towards the new curriculum.

Another strategy to help manage curriculum change and development is mentoring and team teaching. Experienced teachers have an important role in supporting less experienced colleagues and can also lead professional development activities within the school. Team teaching is also an excellent way of sharing expertise, providing professional support and learning new skills. While the content in different academic
5. Leadership, curriculum evaluation and building school capacity

disciplines is different, many of the teaching and assessment principles and practices are often similar, so inter-departmental collaboration can also be very productive.

Working with another school with experience of Cambridge is an additional way to support teachers during what can feel like an unsettling and isolating time. This approach can be particularly useful in smaller schools where there may only be one subject teacher at each school level.

5.8 Involving the local community

Parents, as well as learners, need to understand the curriculum, its rationale and the choices that learners are required to make at different stages. Parent information sessions with question and answer sessions can support school publications in this process of communication.

Parents also need to support the development of learner attributes at home. Schools can highlight this by sending these to parents with an explanation of their significance and using the school reporting process to comment on learners’ progress against these broader learning objectives. In the same way that it can be beneficial for staff evaluation to include self-reflection, learners will also benefit from an element of self-evaluation in reporting.

Global understanding is grounded in a deep appreciation of local context and culture. Apart from enriching the curriculum, community resources and participation in community activities may benefit student learning in other ways. For example, creating links with local businesses and service organisations gives learners an insight into potential career options. Broadening learners’ awareness of post-school opportunities can influence the range of subjects they want to study, helping them take responsibility for their next steps in learning. It can also increase motivation levels and encourage greater participation in classroom activities. Community service can support the development of the learner attributes and help nurture a sense of social responsibility.

5.9 Student admissions, progression through the school and guidance on to higher education

At Cambridge we are committed to ensuring that our qualifications are internationally recognised and help learners gain admission to the whole range of colleges and universities around the world.

Our Recognition team, based in Cambridge and key locations around the world, strives to ensure that universities are fully familiar with Cambridge qualifications, so that learners can gain the places and academic credit they deserve.

For more information please visit the ‘Universities’ area of our website where you can search our database to find out which universities accept our qualifications.

5.10 Administering our assessments (exams officer)

The exams officer is ‘the person appointed by the Head of Centre to act on behalf of the school, with specific responsibility for administering Cambridge exams’. We provide detailed support and training for exams officers managing our assessment processes. For more information please visit www.cie.org.uk/examsofficers
Working with us

This chapter highlights the range of support services and resources we offer to schools working with us. It will give you an overview of different types of support available and points you to where you can find detailed information. The end of the chapter details what to do next if you are thinking of becoming a Cambridge school or expanding the range of Cambridge qualifications or programmes you already offer.

To help your teaching team understand and effectively deliver our programmes, and to meet their professional development needs, we offer a range of support materials and services. Teachers can access this support whether your whole school curriculum is built on Cambridge courses or whether you combine Cambridge courses with other national or international qualifications.

We can provide three major areas of support:
- curriculum materials and resources
to support teachers in the delivery of subject curricula
- professional development
- local advisory and development services.

Curriculum materials and resources

Secure online support

Teacher Support
An online resource bank and community forum where teachers can access thousands of Cambridge support resources, exchange lesson ideas and materials, and join subject-specific discussion forums.

Assessment tools
We provide dedicated online support to schools registered to offer Cambridge Primary and Cambridge Secondary 1. Teachers can download progression tests and use results analysis tools to monitor learners’ progress.

For teachers and students of Global Perspectives
Cambridge schools offering Cambridge Global Perspectives can use our online learning area. It provides a space for teachers and learners to build online communities where they can share resources and work with other schools. In addition, there are full online Cambridge IGCSE and Cambridge International AS Level Global Perspectives courses available in the online learning area.

Ask the Examiner seminars
These sessions take place on Teacher Support after exam results have been released, giving teachers an opportunity to ask examiners any questions they have about the series.

For more information go to www.cie.org.uk/teachers
Teaching resources

Syllabus (or curriculum framework)
The most important documents teachers will use. They describe what learners need to know, what they must be able to do, and how they will be assessed. We provide curriculum frameworks for Cambridge Primary and Secondary 1 subjects and then syllabuses for Cambridge Secondary 2 and Cambridge Advanced subjects.

Schemes of work
A medium-term plan that gives ideas on how teachers might deliver the course.

Teacher guides
Some subjects have teacher guides which provide extra guidance on planning and teaching.

Textbooks and publisher resources
We publish lists of resources to support teaching, including textbooks and websites. Some of these resources are endorsed by Cambridge International Examinations, which means we have quality checked them and judge them to match the syllabus well.

Example candidate responses (standards booklets)
Real candidate answers are shown alongside examiner comments so teachers can see the level of performance needed to achieve each grade.

Exam preparation materials

Past question papers
We publish past papers for each subject. Great for giving learners practice at answering different types of question.

Examiner reports
Our principal examiners write detailed reports describing learners’ overall performance on each part of the question. The reports give insight into common misconceptions shown by learners, which teachers can address in lessons.

Grade thresholds
These show the minimum number of marks learners needed to achieve in order to be awarded a particular grade.

Mark schemes
These help teachers understand how marks are awarded for each question and what examiners look for when they mark.

For more information go to www.cie.org.uk/teachers
6. Working with us

Professional development

We offer a coherent framework of training and professional development for teachers in Cambridge schools, designed to meet the needs of teachers who have different levels of experience. The support we offer for teachers includes courses and resources aimed at developing the knowledge and skills teachers need to deliver specific programmes and qualifications, and others that are more general, aimed at developing teaching strategies, skills and reflective practice.

We offer courses, seminars and conferences, face-to-face and online training events and webinars. Our online courses are delivered via our virtual learning environment and help teachers to build links and exchange ideas with other Cambridge schools internationally.

Teaching Cambridge programmes and qualifications

We offer three levels of programme- and qualification-specific professional development, which we are continually developing and expanding:

Introduction level
Courses provide an introduction to Cambridge syllabuses and key documents. Teachers will learn the standards required in the assessment of Cambridge syllabuses and be given practical activities to help with marking.

Intermediate level
Tutor-led courses focus in more depth on teaching strategies and/or assessment issues, with more practical marking experience developing a deeper understanding about standards. These courses are designed for teachers who already have some experience of working with Cambridge.

Advanced level
Courses, which may be online, face to face or blended, explore subject, syllabus or general teaching issues in greater detail. Sessions are aimed at teachers with a considerable amount of experience in teaching and may be led by external experts in their field.

For a list of forthcoming courses and details of how to enrol, go to www.cie.org.uk/events

Our professional development training courses (Subject specific and skills-based)

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<thead>
<tr>
<th>Level</th>
<th>Description</th>
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<tbody>
<tr>
<td>Introduction</td>
<td>Engage with new ideas</td>
</tr>
<tr>
<td>Intermediate</td>
<td>Build confidence in new teaching ideas</td>
</tr>
<tr>
<td>Advanced</td>
<td>Consolidate understanding and develop innovative practice</td>
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</table>

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>Courses for teachers new to Cambridge programmes and qualifications</td>
</tr>
<tr>
<td>Intermediate</td>
<td>Courses for teachers with some experience of Cambridge programmes and qualifications</td>
</tr>
<tr>
<td>Advanced</td>
<td>Courses for teachers with significant experience of Cambridge programmes and qualifications</td>
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</table>

Our professional development qualifications

<table>
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<tr>
<th>Level</th>
<th>Description</th>
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<tbody>
<tr>
<td>Orientation</td>
<td>Developing professional knowledge by reviewing key principles, concepts and approaches.</td>
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<tr>
<td>Certificate</td>
<td>Teaching &amp; Learning Teaching Bilingual Learners Teaching with Digital Technologies Educational Leadership</td>
</tr>
<tr>
<td>Diploma</td>
<td>Teaching &amp; Learning Teaching Bilingual Learners Teaching with Digital Technologies Educational Leadership</td>
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</table>

Cambridge Professional Development Qualifications

Teachers may choose to take a Cambridge Professional Development Qualification at Certificate and/or Diploma level to demonstrate their growing expertise through reflective practice. The qualifications, which are accredited by the Institute of Education in London, are designed to enable teachers to apply their professional learning in their day-to-day teaching, and lead to qualitative improvements for the individual teachers and their institution. They are considered an integral part of the Cambridge professional development framework and have been designed with Cambridge teachers in mind.

For full details of our professional development provision, go to www.cie.org.uk/cambridge-professional-development
Local support

We can provide local support and guidance for teachers and school leaders involved in implementing the Cambridge curriculum. By working with you we will be able to respond to your specific needs by providing a more personalised experience. We can also help identify solutions or processes to address any problems or challenges you may experience. If you need longer term support we can work with you to develop and implement a more formalised programme.

If you are interested in local support please email info@cie.org.uk with 'Local curriculum support request' in the email subject line.

You can find more information at www.cie.org.uk/startcambridge

Becoming a Cambridge school or expanding your Cambridge offer

If you would like to take on additional Cambridge qualifications and programmes, and you are already a Cambridge school, please contact us using the details below. If you are not a Cambridge school, you need to register first. Registering with us is simple and we will guide you through each step.

Cambridge International Examinations
1 Hills Road, Cambridge
CB1 2EU, United Kingdom
Tel: +44 1223 553554
Fax: +44 1223 553558
Email: info@cie.org.uk
References


This guide has presented an overview of the issues and questions that you will need to consider in developing your curriculum. In this section we identify a few texts and other resources and links for schools interested in exploring ideas further. We recommend these because they are relevant, research-based, obtainable and reasonably priced. They are good starting points, from which you can follow your particular interests, but represent only a few of the wide range available. We encourage schools to share any literature and resource material they have found useful through the Teacher Support community.

### Curriculum planning


Addresses the fundamentals of curriculum design in the context of a standards-based environment, with guidance and useful tools, e.g. for curriculum mapping from a United States perspective.


A comprehensive survey of historical and contemporary keynote writing on the curriculum, balanced with concrete examples of innovative curriculum and an examination of contemporary topics, e.g. globalisation.


Summarises and explains the main aspects of curriculum theory, and shows how these can and should be translated into practice, in order to create an educational and democratic curriculum for all schools at all levels.


Contemporary concepts of school-based curriculum development and case studies of practice in a range of Asian and European nations, exploring commonalities and differences.


Learning as knowledge construction and the implications of this for the nature of knowledge and for the way it is acquired, e.g. learning within domains and different subject perspectives.


An evaluation of major international curriculum concepts and practices including planning, development and management, teaching perspectives, collaborative design and involvement, and ideology.


A critical selection of seminal articles from the *Journal of Curriculum Studies* by international experts. Themes include classrooms and teaching, pedagogy, science and history education, school and curriculum development, and students’ lives in schools.


A design process in which the curriculum planner starts by identifying clear learning outcomes and relevant facets of understanding,
Annotated bibliography and other resources

and makes explicit the essential questions to be explored.

Effective schooling


Focuses on how ideas and intentions can be turned into direct actions that will help a school improve its performance and effectiveness, looking at effective schools and how they have achieved their goals, leadership within schools, teaching and learning effectively, making critical interventions to secure improvement and how schools involve others to support improvement.


Draws upon extensive work on school improvement over the last 15 years, and is set in the real context of the many changes and new agendas that are a feature of schools today.


Hattie and colleagues have researched the most powerful influences on achievement in schools. This book presents a synthesis of over 800 meta-analyses and is one of the largest collections of evidence about what works in schools to improve learning.


Reviews findings from seminal international work to analyse school effectiveness, its measurement, and impact for teachers, parents and pupils.

Measures of Effective Teaching project (MET) www.metproject.org/reports.php

A number of resources are available on the website, primarily focused on measuring teaching effectiveness. Research base entirely in the USA.


Classroom talk is essential for guiding the development of understanding and for learners to understand their teachers and their peers in constructing knowledge. This book considers the practical steps teachers can take to develop effective classroom interaction, looking at: classroom communication and managing social relations; talk in science classrooms; using critical conversations in studying literature; exploratory talk and thinking skills; talking to learn and learning to talk in the mathematics classroom; the ‘emerging pedagogy’ of the spoken word.


Focuses on those who are most affected by changes in education policy and systems – the learners. Based upon and distilling empirical evidence from a number of research projects, this is an account of contemporary schooling from the learners’ perspective. The research indicates that we need to see pupils differently, to re-assess their capabilities and reflect on what they are capable of being and doing.

Bilingualism and learning


A comprehensive introduction to bilingualism and bilingual education, covering all the crucial issues in bilingualism at individual, group and national levels.


Aimed primarily at those who teach learners for whom English is not their first language, this Toolkit helps teachers to develop language awareness and support through classroom approaches and coordination with other teachers.

This is a comprehensive overview of CLIL, from theory to practice, for both language and content-subject teachers, providing guidance on the development of learning activities and materials, teaching approaches, assessment and evaluation.


Identity texts describes a variety of creative work by children, led by classroom teachers: collaborative inquiry, literary narratives, dramatic and multimodal performances. This book shows how identity texts have proved to be an effective and inspirational way of engaging learners in multilingual schools around the world.


Provides an overview of bilingual education theories and practices throughout the world, and extends traditional conceptions of bilingualism and bilingual education to include global and local concerns in the 21st century. Garcia questions assumptions regarding language, bilingualism and bilingual education, and proposes a new theoretical framework and alternative views of teaching and assessment practices.


The first guide available to focus on the development and organisation of a bilingual education programme from the perspective of the school leader, providing international perspectives on planning and partners, leadership, learners, teachers and parents. This is a practical guide to support implementation, and evaluation and improvement of practice.


This handbook gives many practical insights into CLIL, at each stage in the cycle of reflective practice, helping teachers to know why and how to facilitate CLIL.


Considers the impact of globalisation on school leadership and the importance of distributed leadership making schools into learning organisations. Examples are taken from 12 countries in different parts of the world.


Five key principles for practice, tested by teachers, school leaders and learners, across cultural and language boundaries, are explored in school and classroom practice: a focus of learning; an environment for learning; a learning dialogue; shared leadership; internal and external accountability.

Annotated bibliography and other resources

Focuses on leading learning and learner leadership, change processes and distributed leadership, and leading professional development, exploring the application of theory in authentic practice in a range of school contexts.

Assessment and assessment for learning


Based on a two-year research project involving 36 teachers in UK schools in Medway and Oxfordshire, the specific assessment for learning practices that teachers found fruitful are described. The underlying ideas about learning illustrated by these developments are explored. The problems that teachers encountered when implementing the new practices in their classroom are discussed, with guidance for school management about promoting and supporting such changes.


A comprehensive overview of assessment to support learning, practice-based theory on assessment for learning, and formative assessment to support individual development and motivate learners. Research-informed insights and practical examples come from a wide variety of international contexts.


A critical review of how learners’ achievements are assessed for a range of purposes, from reporting progress to selection and qualification. It considers the relationship between learning outcomes and assessment, the use of assessment for target setting and evaluation, and the role of teachers’ judgements.


Focuses on the conditions within schools, and across networks of schools, that are conducive to the promotion, in classrooms, of learning how to learn as an extension of assessment for learning.


This book explores the values, principles, research and theories that underpin our understanding and practice of assessment. It provides practical suggestions and examples, and addresses key points about the future development of assessment. Complex but crucial ideas and issues are made accessible, so that teachers can be more confident and proactive in shaping assessment in their classrooms, in ways that support learning and avoid unintentional harmful consequences.


Shows how theory can best be put into practice, using as little jargon as possible. Issues discussed include: how skills of reflection, self-evaluation and personal target setting can impact on learning; how far learners are able to evaluate their own performance and what schools can do in the short, medium and long term to promote more effective learning.


Wiliam outlines five key strategies of formative assessment: clarifying, sharing and understanding learning intentions and criteria for success; engineering effective classroom discussions, activities and learning tasks that elicit evidence of learning; providing feedback that moves learners forward; activating learners’ instructional resources for one another; activating learners as the owners of their learning. Through a summary of the research evidence he shows the impact of each of the above strategies, and offers many practical techniques that teachers can use to incorporate the strategies into their classroom practice.
Annotated bibliography and other resources


This practical guide can be used by individual teachers or collaboratively as a study guide in a professional learning community. Case studies provide examples of formative assessment in practice, along with examples of teachers implementing changes in their practice. Readers are encouraged to select a specific aspect of formative assessment to investigate, explore relevant personal practice relevant to that aspect, implement necessary changes, reflect on those changes, and continue the change process.

**School evaluation**


Provides a practice-focused guide to school evaluation, its methods, approaches and impact.


Makes school self-evaluation accessible, and through case studies helps schools and teachers to develop self-confidence in working with evaluation tools. Discusses the concerns and issues of schools today to propose challenging ideas for the future.


In Part 2, the evaluation schedule, grade descriptors for each of the key areas: the achievement of pupils at the school, the quality of teaching in the school, the behaviour and safety of pupils at the school, the quality of leadership in, and management of, the school are given. This might form the basis from which a school could develop its own self-evaluation schedule.

**Professional development**


For teachers and school leaders to develop understanding of professional and institutional development and of the principles of appraisal and review; to review their own professional development; develop and apply criteria for evaluating the quality and value of professional development; and identify appropriate areas for future development.


Presents action guidelines for classroom teachers and school leaders to transform the culture of teaching and teacher development.


Guide to understanding and using reflective and experiential learning, with practical ideas, tools, activities and photocopiable resources for classroom practice.


The textbook for reflective classroom professionalism, summarising latest research, analysing key topics and principles, and providing resources for continuing professional development.


This book is a ‘portable library’ of 120 essential readings for the reflective practitioner, concerning teaching and learning.
Glossary

Active learning
Learning which engages students and challenges their thinking, using a variety of activities.

Assessment for learning
Essential teaching strategies during learning to help teachers and students evaluate progress in terms of understanding and skill acquisition, providing guidance and feedback for subsequent teaching and learning.

Backwash effect
The impact of an examination on teaching and learning, by influencing the design of the learning programme and activities.

Balanced curriculum
A school curriculum with a complementary range, combination and weighting of subjects. This normally includes mathematics, languages, sciences, technology, humanities, creative arts and physical education.

Benchmarking
Measuring performance against an established standard.

Bilingual education
Teaching and learning in two or more languages, developing both subject and language knowledge and skills.

Broad curriculum
Every student experiences a wide range of different subjects and learning activities.

Cambridge community
Schools using Cambridge educational programmes [currently about 9,000 schools worldwide, located in approximately 160 countries].

Cambridge Handbook
The official document detailing the regulations for running Cambridge examinations and assessments. It details the responsibilities of Centres and forms part of the customers’ contract with Cambridge.

Co-curriculum
Valued educational activities that support learning beyond the school curriculum, which the school encourages and supports.

Component
A component is an assessable part of a subject examination, not certificated as a separate entity, e.g. a written paper or a practical.

Content and language integrated learning (CLIL)
In a CLIL approach to bilingual education, students develop their subject knowledge and language skills at the same time using specific teaching and learning strategies.

Core subject
A subject which is an essential part of the curriculum, typically English, Mathematics and Science.

An alternative meaning is a subject [like global perspectives] which becomes a focus of learning in other subjects enhanced by interdisciplinary approaches and connections with other subjects.

Coursework
Classroom assignments undertaken by learners as prescribed in the syllabus. Normally assessed by the learner’s teacher according to criteria set by Cambridge. The work is moderated within the school and then by Cambridge.

Creative development
Enabling learners to develop their imagination and original thinking in solving problems and producing ideas, images, artefacts, performances and actions which have value to themselves and others.

Critical thinking
The ability, underlying all rational discourse and enquiry, to assess and evaluate analytically particular assertions or concepts in the light of either evidence or wider contexts.
Glossary

**Curriculum**
An overall description of the aims, content, organisation, methods and evaluation of the learning programme and the factors influencing the quality of learning.

*The term curriculum is often used in different contexts and different ways* (please see page 3 for examples).

**Curriculum framework**
The systematic structure of the curriculum as set out in document(s) specifying the way in which learning and assessment is to be organised.

**Curriculum mapping**
Documents all the interrelationships within the curriculum, e.g. what is to be learned, how and when.

**Differentiated learning**
Adapting one's teaching to suit the needs of different learners for their current level of understanding and performance, by providing appropriate learning activities, support, and assessment, so that all students in the group can learn effectively (see ‘Scaffolding learning’).

**Directed study**
Learning in which the teacher as expert authority sets out and transmits the knowledge to be learned.

**Dual qualifications**
Cambridge and national qualifications.

**Educational aims**
Statements of the broad purposes or intentions of the curriculum or learning programme.

**E-learning**
Learning that takes place using electronic media, for example online.

**ESOL**
English for speakers of other languages.

**Exams officer**
The person appointed by the principal to act on behalf of the school with responsibility for the day-to-day administration of its Cambridge examination cycle.

**Experienced curriculum**
What students actually learn from their whole educational experience, including both planned and unintended outcomes, as a result of all their activities in the learning environment.

**First language**
The language that the learner or teacher uses mainly, from childhood and at home.

**Formal assessment**
Planned and structured measurement of learning.

**Formative assessment**
Provides students with developmental feedback on their progress during the learning programme and informs the design of their next steps in learning.

**Guided learning hours**
The average amount of teacher-learner contact time a school typically needs to allocate for students to be well-prepared for a qualification.

**Higher education**
Courses in universities and colleges beyond upper secondary school, e.g. degrees.

**Interpersonal skills**
Skills used to interact effectively with people on a day to day basis, e.g. communication, empathy.
Glossary

Intrapersonal skills
Skills used to reflect on, manage and develop your own thinking, behaviour and progress.

Management cycle
An iterative process in which school leaders set goals, implement actions, monitor and evaluate progress and outcomes in relation to the school’s strategic plan.

Mission statement
A formal statement of the education purpose of the school.

Moderation
The process of checking that assessment standards have been applied correctly, consistently and fairly, and making adjustments if necessary to ensure that all assessments are aligned to the standards.

Multi-levelling
Assessments specifically targeted at different levels of ability.

Multilingual curriculum
Specifies subjects that will be taught in either English or the native language(s).

Non-staged assessment
All the assessment components are taken in one examination session.

Partnership in learning
Active and sustained cooperation between individuals and between institutions to achieve clear shared aims and objectives.

Pedagogy
The theory and practice of teaching and learning.

Pre-university qualifications
Provide the preparation and recognition for entry into higher education, e.g. Cambridge International A levels.

Professional development (PD)
Teachers continuously and systematically reflect on and improve their professional thinking and practice, engaging in appropriate learning opportunities to improve and upgrade their knowledge and skills.

Programme of study
A planned schedule of teaching and learning activities, relating to the curriculum framework and qualification.

Progression route
Movement of the student from one stage of learning to another in a systematic and planned sequence.

Psychomotor development
Learning and developing skills incorporating physical movement and coordination.

Qualification
The formal certificated recognition of a student’s achievement at the end of a particular course, based on successful performance demonstrated through assessed evidence.

Reflective practice
The process through which the teacher continuously learns from the experience of planning, practice, assessment and evaluation and can improve the quality of teaching and learning over time.

Scaffold learning
The teacher provides appropriate guidance and support to enable students to build on their current level of understanding progressively to acquire confidence and independence in using new knowledge or skill.

Scheme of assessment
The set of examination components through which a learner’s achievement in relation to a particular qualification is determined.
Glossary

**Scheme of work**
A set of planned units of learning relating to a topic, subject or stage.

**School curriculum**
Refers to the combination of subjects studied within a school year and in sequential years as the learner moves through the educational system provided by the school.

**Second language**
A language other than the national or official language of a country.

**Shared subject curriculum**
Students study selected subjects in both the first language and in English which could lead to the awarding of both national and Cambridge qualifications.

**Spiral approach**
Areas of learning are revisited systematically within a planned curriculum so that the learner can engage in more depth and detail and acquire related knowledge and skills.

**Split curriculum**
Students study two curricula, some subjects are studied as part of the national curriculum and others as part of an international curriculum.

**Staged assessment**
Assessments are arranged throughout the period of learning.

**Student-centred learning**
In designing the learning activities, the teacher focuses on the needs, abilities and interests of the learner in relation to the learning outcomes.

**Subject curriculum**
The content and skills contained within a syllabus applied across sequential stages of student learning. These stages normally refer to school year levels, and therefore a particular age of learner.

**Summative assessment**
Typically end-of-learning assessment tasks such as examinations and tests, to measure and record the level of learning achieved, for progression to the next level or for certification.

**Supplementary subject**
A subject course chosen to provide breadth and balance in the curriculum in support of the core subjects.

**Syllabus**
A complete description of the content, assessment arrangements and performance requirements for a qualification. A course leading to an award or certificate is based on a subject syllabus.

**Teacher Support**
The framework of courses, resources and guidance that Cambridge provides to help teachers develop their understanding of and practice with Cambridge programmes.

**Timetable**
A schedule listing the times and durations of lessons across a specific period of time, often a week. This is sometimes referred to as the teaching schedule.

**Vision**
The school’s vision is a compelling sense of the future direction of the school that should be widely shared and inspire commitment.

**Zone of proximal development**
The difference between what a learner can achieve when they receive expert support and what they can achieve independently.
School years and age ranges

In this guide we refer to school years. The table below gives you an idea of how these school years correspond to learner ages from a sample of school systems in different countries.

<table>
<thead>
<tr>
<th>Age</th>
<th>UK school year system</th>
<th>Malaysia school year system</th>
<th>New Zealand school year system</th>
<th>Pakistan grade system</th>
<th>US grade system</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–4</td>
<td>Nursery/Pre-school</td>
<td>Pre-school playgroup</td>
<td>Early childhood education</td>
<td>Pre-school</td>
<td>Pre-kindergarten 3-4</td>
</tr>
<tr>
<td>4–5</td>
<td>Reception</td>
<td>Kindergarten</td>
<td>Early childhood education</td>
<td>Pre-school</td>
<td>Pre-kindergarten 4-5</td>
</tr>
<tr>
<td>5–6</td>
<td>Year 1</td>
<td>Kindergarten</td>
<td>Year 1</td>
<td>Grade 1</td>
<td>Kindergarten</td>
</tr>
<tr>
<td>6–7</td>
<td>Year 2</td>
<td>Standard 1</td>
<td>Year 2</td>
<td>Grade 2</td>
<td>Grade 1</td>
</tr>
<tr>
<td>7–8</td>
<td>Year 3</td>
<td>Standard 2</td>
<td>Year 3</td>
<td>Grade 3</td>
<td>Grade 2</td>
</tr>
<tr>
<td>8–9</td>
<td>Year 4</td>
<td>Standard 3</td>
<td>Year 4</td>
<td>Grade 4</td>
<td>Grade 3</td>
</tr>
<tr>
<td>9–10</td>
<td>Year 5</td>
<td>Standard 4</td>
<td>Year 5</td>
<td>Grade 5</td>
<td>Grade 4</td>
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<tr>
<td>10–11</td>
<td>Year 6</td>
<td>Standard 5</td>
<td>Year 6</td>
<td>Grade 6</td>
<td>Grade 5</td>
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<tr>
<td>11–12</td>
<td>Year 7</td>
<td>Standard 6</td>
<td>Year 7</td>
<td>Grade 7</td>
<td>Grade 6</td>
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<tr>
<td>12–13</td>
<td>Year 8</td>
<td>Form 1</td>
<td>Year 8</td>
<td>Grade 8</td>
<td>Grade 7</td>
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<tr>
<td>13–14</td>
<td>Year 9</td>
<td>Form 2</td>
<td>Year 9</td>
<td>Grade 8</td>
<td>Grade 8</td>
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<tr>
<td>14–15</td>
<td>Year 10</td>
<td>Form 3</td>
<td>Year 10</td>
<td>Grade 9</td>
<td>Grade 9</td>
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<tr>
<td>15–16</td>
<td>Year 11</td>
<td>Form 4</td>
<td>Year 11</td>
<td>Grade 10</td>
<td>Grade 10</td>
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<tr>
<td>16–17</td>
<td>Year 12</td>
<td>Form 5</td>
<td>Year 12</td>
<td>Grade 11</td>
<td>Grade 11</td>
</tr>
<tr>
<td>17–18</td>
<td>Year 13</td>
<td>Form 6</td>
<td>Year 13</td>
<td>Grade 12</td>
<td>Grade 12</td>
</tr>
</tbody>
</table>
The list below details the subjects we offer with a number of alternative courses. For example, in mathematics we offer a Cambridge IGCSE with coursework and one without coursework. This flexibility means you can select the course that best meets your learners’ needs. Some of our alternative subject courses have particular restrictions (barred combinations) when it comes to the exams.

**Cambridge IGCSE science courses**
- Cambridge IGCSE Combined Science
- Cambridge IGCSE Co-ordinated Sciences (Double Award)
- Cambridge IGCSE Biology
- Cambridge IGCSE Chemistry
- Cambridge IGCSE Physics
- Cambridge IGCSE Physical Science
- Cambridge IGCSE Agriculture
- Cambridge IGCSE Environmental Management
- Cambridge IGCSE Food and Nutrition

**Cambridge IGCSE mathematics courses**
- Cambridge IGCSE Mathematics
- Cambridge IGCSE Mathematics with coursework
- Cambridge IGCSE Mathematics – Additional
- Cambridge IGCSE International Mathematics

**Cambridge O Level mathematics courses**
- Cambridge O Level Mathematics – Additional

**Cambridge IGCSE computing courses**
- Cambridge IGCSE Computer Studies
- Cambridge IGCSE Information & Communication Technology

**Cambridge O Level computing courses**
- Cambridge O Level Computer Studies

For a full list of the subjects we offer across our programmes and qualifications please see the latest Cambridge prospectus available at [www.cie.org.uk](http://www.cie.org.uk)