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RETHINKING ASSESSMENT

# Beyond the baccalaureate: Learning from across the world

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Making Education Relevant

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# Contents

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# 1. English 14-19 education in a rapidly evolving world

> The general standard of life has improved, and life itself is being lived at a faster rate. The universality of motor-transport, of broadcasting, and of the sound-film in the cinemas presents new features in the common life, while better housing, the increasing use of electrical and other mechanical devices, the probability of increased leisure and wider social contacts for all, with their opportunities for the enrichment of experience, make it necessary for those engaged in education to review their task afresh.
>
> Board of Education, (1937, p. 6)

It is a statement of the obvious to say that the world is changing ever faster today. Automation proceeds apace, generative and general AI are astounding us and many hybrid working and learning patterns adopted during Covid-19 are still in place. New social movements espousing views on climate and sexuality require us to rethink orthodoxies, persistent inequities across the world and sudden migration surges caused by famine or war or both threaten the fabric of civilised living. And all the while extraordinary advances in our scientific understanding continue. Life today is moving at warp speed.

But, albeit in a slightly less accelerated form, it has always been thus. Nearly a century ago the Board of Education in London prefaced its advice to teachers, the quotation which begins this section, with an uncannily similar observation. It suggested that 'the aim of education should be to develop to the full the potentialities of every child at school, in accordance always with the general good of the community of which he is a member' (p.12) and goes on to suggest ways in which schools can better prepare

Some fifty years ago in the USA Alvin Toffler warned us that something strange was happening. He called it future shock, 'the shattering stress and disorientation that we induce in individuals by subjecting them to too much change in too short a time', (Toffler, 1970, p.12). Toffler went on to argue that the curriculum was obsolete, giving young people 'little choice in determining what they wish to learn' (p. 371). He was particularly critical of the division of the curriculum into air-tight compartments disconnected from the reality of the needs of people.

## *England's structural changes*

In England, various types of schools have evolved as our answer to deliver the kind of education that successive Departments of Education thought were appropriate. So descriptors such as Secondary Modern, Grammar, Comprehensive, Academy, Studio, Free, University Technical College, Multi-Academy Trust and so forth were coined. Alongside such institutional changes various examinations have been engineered to sift, sort and assess young people. These include the General Certificate of Education Ordinary Level or O-Level (1951), the Certificate of Secondary Education or CSE (1965-1987) and the General Certificate of Secondary Education or GCSE introduced in September 1986 as a national qualification for those who left school at 16. Advanced or A levels were created in 1951, BTECs (taking their name from the Business and Technology Education Council which first awarded them) began in 1996, the Higher Project Qualification or HPQ and Extended Project Qualification or EPQ, were an attempt in 2009 to replace a General Studies qualification increasingly not valued, and Technical or T levels are just being introduced now.

The first statutory National Curriculum in England was the idea of the then Secretary of State for Education Ken Baker. The Education Reform Act[1] was passed in 1988 and introduced into schools from September 1989 onwards. The core curriculum for all students now included three core subjects, mathematics, English and science; and seven foundation subjects, history, geography, technology, music, art, physical education and a

modern foreign language. Religious education remained compulsory, even though it was not part of the National Curriculum.

While some welcomed the clarity and breadth of the curriculum, many saw the beginnings of a two tier world, an academic pecking order. So art was essential while music, drama and design technology were optional. Some practical subjects could see themselves as branches of science, others could not. The word 'practical' does not appear in the 1988 Act and the word vocational appears only twice in the section dealing with Further Education.

In a nearly bold step schools were additionally advised, but not required, to teach five 'cross-curricular themes':

1. health education
2. careers education and guidance
3. economic and industrial understanding
4. environmental education, and
5. education for citizenship.

Framing the curriculum as a complex woven tapestry with both web (core and foundation subjects) and weft (cross-curricular themes) was inspired. But in terms of delivery, as the themes were non-statutory, the system was easily able to shrug off such innovation and stick to its well-trodden subject-based paths.

## *A missed opportunity?*

It took Mike Tomlinson (2004) to try and resolve the tensions left at key stages 4 and 5 by the introduction of the National Curriculum. Tomlinson argued for the creation of a new framework for 14-19 learning made up of:

- core learning which is about getting the basics right, and developing the generic knowledge, skills and attributes necessary for participation in higher education, working life and the community; and
- main learning – chosen by the learner to develop knowledge, skills and understanding of academic and vocational subjects and disciplines which provide a basis for work-based training, higher education and employment (Tomlinson, 2004, p.5).

Importantly Tomlinson's recommendations also made an extended project a compulsory element of core learning.

Tomlinson's thinking was fundamental, arguing for a wholescale reform of 14-19 education. In 2008 a new qualification, the 14-19 Diploma was introduced, a partial response to his recommendations. The diploma was a 'hybrid' of general and vocational qualifications, planned to cover 14 'lines of learning' linked to industry sectors. The Diploma did not survive, never being rolled out in full. It was a discrete solution when a system one was needed, with too many complex elements and was quietly ended in 2010 (Jones, 2012).

In 2011 the recently elected Coalition government introduced a new performance indicator called the English Baccalaureate or EBacc to measure the percentage of students in a school who achieve 5+ A*-C grades (now five Grades 4 to 9) in English, mathematics, two sciences, a foreign language and history or geography at GCSE level. While its original intentions may have been reasonable - improving social mobility, acting as a new performance measure, and ensuring a core, academic curriculum offer for all students - the consequences of its introduction have been to reduce the range of subjects studied (with particularly negative effects on arts and design subjects) and, because of Ofsted's interest in the Attainment 8 and Progress 8 scores derived from EBacc results, heavily skew the curriculum at key stage 4.

[1] https://www.legislation.gov.uk/ukpga/1988/40/enacted

Interestingly the architect of the National Curriculum and of GCSEs, Ken Baker, has changed his mind about both. Baker now believes GCSEs serve no useful purpose and are a throwback to the days when it was possible to leave school at 16. Baker (2016) is particularly critical of the EBacc and argues that we

> ...should broaden the scope of the English Baccalaureate, initially at the age of 16. In time, however, it should become a leaving diploma which recognises the full range of academic and technical achievement between the ages of 14 and 19 including GCSEs, A-levels and technical qualifications up to level 4 - equivalent to a Higher National Certificate (Baker, 2016, p.4).

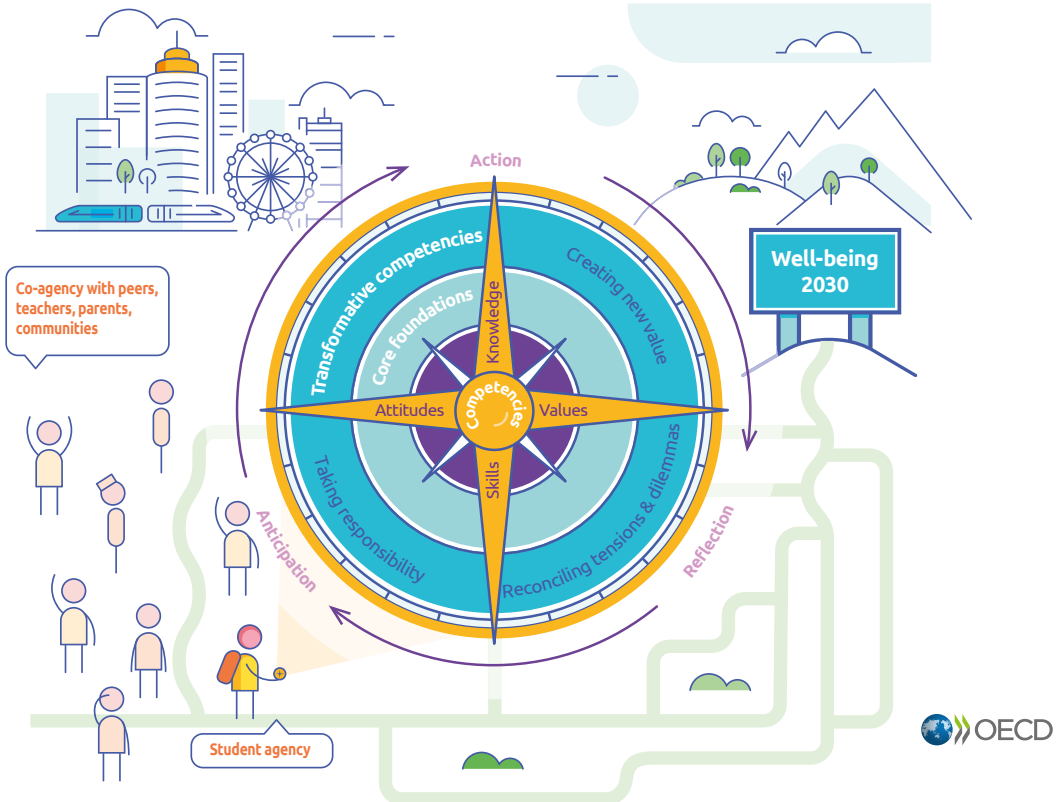
We'll return to these ideas in the next sections.

## *No shortage of alternative visions*

Baker is one of a clamour of voices for change. With Guy Claxton I, along with many others, have argued (Claxton and Lucas, 2015) that we can have more fruitful discussions about the purpose of school if we think not just about the subjects of a student's timetable but also about the kinds of dispositions we'd like to see being cultivated. We draw on research, albeit neatened up to alliterate and be more memorable when described as seven 'Cs' - Confidence, Curiosity, Collaboration, Communication, Creativity, Commitment and Craftsmanship. There are many other thinkers in this space on whom we could call.

In recent years the Organisation for Economic Cooperation and Development (OECD) Future of Education and Skills 2030 project has sought to match curriculum with 'jobs that have not yet been created, to tackle societal challenges that we cannot yet imagine, and to use technologies that have not yet been invented'[2]. The OECD suggests that, rather than fretting about precisely which subjects should be on a curriculum, it may be more helpful to use the metaphor of a compass to envisage the need for students to learn to navigate themselves through unfamiliar contexts and reflect on the knowledge, skills, attitudes and values they will need as they go, Figure 1.

**Figure 1. OECD Learning Compass 2030**



In fact, while we may not agree on every single detail, there is increasing consensus on the range of analytical/creative, interpersonal, self-management and emotional capabilities young people will need to be employable. Recent research by NFER (Taylor et al., 2022) lists the top five in order as:

**1 =** Problem-solving/Decision-making
Critical thinking/Analysis
Communication
**4** Collaboration/Cooperation
**5** Creativity/Innovation (Taylor et al., 2022, p. 8).

Interestingly, these kinds of skills are important not just for work but for success in education and the wider world (Gutman and Schoon, 2013; Lucas, 2019).

## *The limitations of England's current 14-19 curriculum*

In 2021 in England, 83.4% of students in school sixth forms and sixth form colleges took A levels. Of the remainder most in schools or colleges took BTECs. Some students took both A levels and BTECs. Some 30,000 took an EPQ, about 1 in 20 of all students. In 2022, the new T levels were being studied by just over 1,000 students[3].

Given what we know about our changing world and the kinds of knowledge, skills and dispositions we want school leavers to acquire, this focus on three subjects skews education in favour of depth rather than breadth, individual endeavour rather than collective, school rather than work focused, memory rather than application. Recently Sir Adrian Smith, President of the Royal Society, gave a damning indictment of 14-19 education in England[4]:

> The current system forces young people to abandon a broad range of skills at the age of 16 - it is one of the narrowest systems in the world, with students in England taking an average of only 2.7 A levels. With a broader and more balanced education system post-16 we could have a workforce equipped with a more rounded set of skills and perspectives, and the ability to transition into a wider set of jobs throughout their lives.

The Times Education Commission (2022) made twelve recommendations for improving schools. The first of these argued for 'a British Baccalaureate, offering broader academic and vocational qualifications at 18, with parity in funding per student in both routes, and a slimmed-down set of exams at 16 to bring out the best in every child' (p.3), something we return to in section 5.

This report looks at the idea of such a baccalaureate in England in the context of global developments in 14-19 curricula.

[2] https://www.oecd.org/education/2030-project/about

[3] https://explore-education-statistics.service.gov.uk/find-statistics/provisional-t-level-results/2021-22

[4] Speech by Sir Adrian Smith to the Future of Education Conference, 29 June 2022

# 2. The idea of a baccalaureate

**baccalaureate**

*noun*

an exam in several subjects taken in the last year of school around the age of 18 in France and some other countries

In England recently there has been a growing interest in some kind of baccalaureate as a way of solving the issues raised in the last section. The International Baccalaureate[5] continues to gain authority and influence. The Times Education Commission (2022), as we saw in the last section, proposed a British Baccalaureate. Most recently Andy Burnham, Manchester's mayor, has introduced the idea of a regional approach, a Manchester Baccalaureate (Greater Manchester Combined Authority, 2023) and some schools have begun to experiment with their own versions of a baccalaureate.

## *A brief history*

The baccalaureate was a type of academic degree that has its roots in medieval Europe. The term "baccalaureate" comes from the Latin word "baccalaureus," which means "one who has attained the degree of bachelor."

The first universities in Europe, such as the University of Paris and the University of Bologna, awarded the baccalaureate as a preliminary degree before students could proceed to higher degrees such as the master's or doctorate. The baccalaureate was originally a degree in the liberal arts, including subjects such as grammar, rhetoric, logic, and mathematics.

Over time, the baccalaureate became associated with secondary education and the completion of high school. In France, the baccalaureate exam was first introduced in 1808 under Napoleon Bonaparte as part of his plan to make French society more egalitarian. It tested students' knowledge of a wide range of subjects, including language, mathematics, science, history, and philosophy. The exam became a requirement for admission to university in 1880.

Today, the baccalaureate is a qualification that is awarded in countries such as France and Switzerland where it is a high-stakes exam that is used to determine students' eligibility for university. In other countries, such as the United States, the baccalaureate is an academic degree that is awarded on completion of a four-year college programme.

### International Baccalaureate

In 1962 the International Schools Association created a new qualification that was explicitly focused on student-centred learning and designed to be taught interactively. It adopted the term International Baccalaureate (IB) to describe it. Since the 1960s the IB program has expanded beyond schools in Europe to 150 countries worldwide.

[5] https://www.ibo.org/

At 14-19 the IB offers a Diploma programme[6] with three core elements:

- Theory of knowledge, in which students reflect on the nature of knowledge and on how we know what we claim to know
- The extended essay, which is an independent, self-directed piece of research, finishing with a 4,000-word paper
- Creativity, activity, service, in which students complete a project related to those three concepts.

The six subject groups students study are Studies in language and literature, Language acquisition, Individuals and societies, Sciences, Mathematics and The arts. In 2006 the IB introduced a 'Learner Profile' with 10 key attributes that the IB programme aims to cultivate in students:

1. Inquirers
2. Knowledgeable
3. Thinkers
4. Communicators
5. Principled
6. Open-minded
7. Caring
8. Risk-takers
9. Balanced
10. Reflective.

In fact this is an aspirational list of desired attributes, not a profile, an idea we'll return to later. The IB sets its curriculum explicitly in the context of lifelong learning with the idea of creativity being an important unifying theme[7]:

> …we believe every person has the ability, and the right, to be creative. By providing IB students with the tools to encourage creative thought and creative behaviours, our programmes help students to develop creativity and, in turn, to foster a commitment to lifelong learning. Creativity is a key element of all four IB programmes.

## English Baccalaureate or EBacc

Introduced in 2010, the EBacc is, In reality, a curriculum for 14-16 in England. By measuring the achievement of students who have gained GCSE level qualifications in English, mathematics, history or geography, the sciences; and a language, the EBacc dictates a 'desirable' curriculum at key stage 4. it effectively constrains the choice of many students to a small number of subjects deemed to be 'academic' and of particular interest for progression to university.

In 2013 two other  indicators were introduced, further squeezing choice by linking scores at Attainment 8 and Progress 8 to external accountability. Attainment 8, students' grades in their 8 highest GCSEs, including grades in Maths and English Language or English Literature GCSE, are combined to produce a number score. A further three of the 8 Best GCSEs need to be drawn from English Baccalaureate subjects. The final three scores can be any subject, although for English to be double weighted, students must sit both Language and Literature,

[6] https://www.ibo.org/programmes/diploma-programme/curriculum/

[7] https://www.ibo.org/programmes/teach-more-than-one-ib-programme/creativity-in-ib-programmes/

so one of these final three subjects is likely to be English. Progress 8 describes students' progress from a baseline when entering secondary school using results in their 8 best GCSEs, five of which have be in EBacc subjects with the remaining three drawn from EBacc or non-EBacc subjects. The government's stated ambition is for 75% of students to study the EBacc subject combination by 2022 and 90% by 2025, but by 2022 only 38.7% were entered for the EBacc, the same figure as in 2021.[8]

The EBacc is a curious phenomenon; the Department for Education reminds us it 'is a performance measure for schools, not a qualification for students[9].' Nevertheless although it is not a qualification it effectively has the impact of both a qualification *and* a curriculum, heavily influencing the choice of subjects between 14 and 16.

A new qualification, the English Baccalaureate Certificate, was proposed by the Coalition Government in 2012, but this was not adopted. Reforms to GCSE qualifications were pursued instead[10].

## The European Baccalaureate

The European Baccalaureate[11] was designed to cater for an education for young people with different mother tongues. Initiated in 1959, there are currently 13 schools in six countries - Belgium, Germany, Italy, Luxembourg, Netherlands and Spain. At one time there was a European school in England in Culham, Oxfordshire, but this closed in 2017.

The European Baccalaureate consists of a comprehensive multilingual curriculum. Students follow a combination of subjects taught through more than one language. The core curriculum consists of the following compulsory subjects:

- At least two language subjects (the dominant language and another one)
- Mathematics, either 3 periods/week or 5 periods/week
- One scientific subject, either Biology 2 periods/week or any other 4-period scientific subject in either Biology, Chemistry or Physics
- History and Geography, either 2 periods/week or 4 periods/week, which are taught through a different language from the dominant one, either in French, English or German.
- Philosophy, either 2 periods/week or 4 periods/week
- Physical Education
- Ethics or Religion.

The European Baccalaureate is an initiative very specifically designed to foster young people with a strong sense of their European identity.

## Welsh Bacc

The Welsh Bacc is a 'wrapper' for various elements, see Figure 2. It exists at Foundation (Level 1), National (Level 2) and Advanced (Level 3). At all levels, it can only be achieved on the successful completion of the Skills Challenge Certificate and the required level of attainment in supporting qualifications.

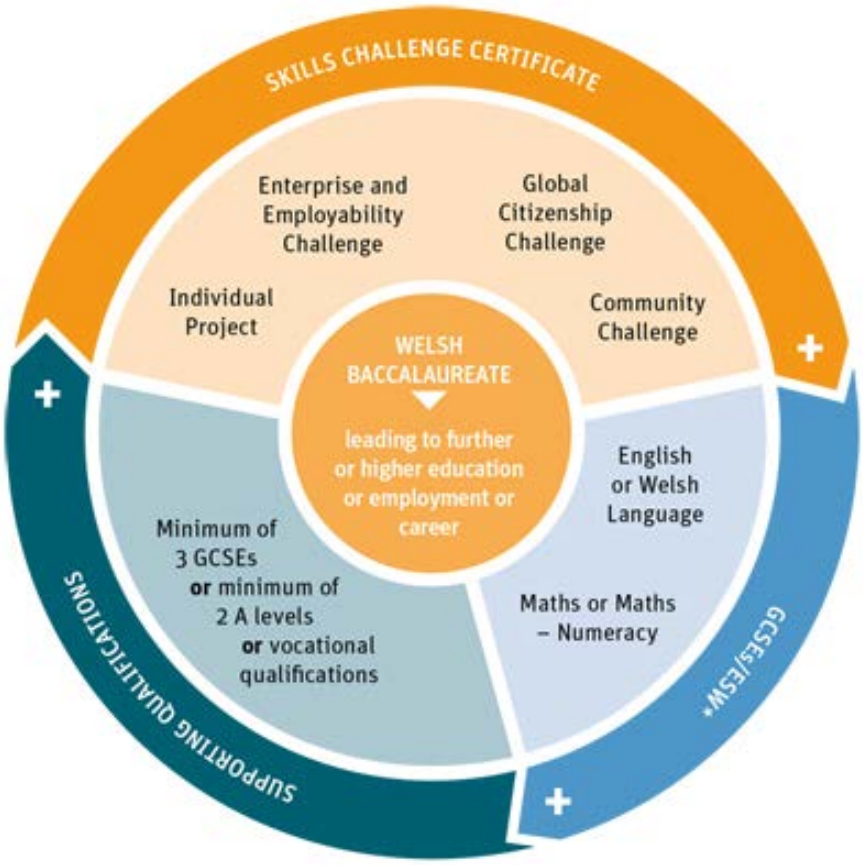
[8] https://ffteducationdatalab.org.uk/2022/10/key-stage-4-2022-the-national-picture/#:~:text=The%20government%20may%20have%20bigger,same%20figure%20as%20last%20year

[9] https://www.gov.uk/government/publications/english-baccalaureate-ebacc/english-baccalaureate-ebacc

[10] https://commonslibrary.parliament.uk/research-briefings/sn06045/

[11] https://www.eursc.eu/en/European-Schools/European-Baccalaureate

**Figure 2. An overview of the Welsh Bacc**




The Skills Challenge Certificate (SCC) is a standalone, graded qualification and is valued as a GCSE or A Level equivalent or it can be taken alongside GCSEs or A Levels. It can be achieved and awarded without the supporting qualifications that make up the Welsh Bacc.

The SCC has four components – an individual project, the enterprise and employability challenge, the global citizenship challenge and the community challenge. The focus of the SCC is on essential life and employability skills.

The Welsh Bacc offers a different type of qualification that focusses on developing a range of essential employability skills. It gives learners the opportunity to study topics and issues of their choosing that are relevant to their future study and career plans.

## Pre-Senior Baccalaureate

The Pre-Senior Baccalaureate (PSB) is an initiative in the independent sector in England designed to replace the high-stakes Common Entrance examination. The PSB began in 2007 with the creation of the Beacon Certificate of Achievement. The PSB is an assessment model that has at its heart the development of the values, skills, attitudes and behaviours required for children to succeed and flourish in an ever changing world. Children are encouraged, recognised and celebrated in their achievements, and directly prepared for the next step of their educational journey[12].

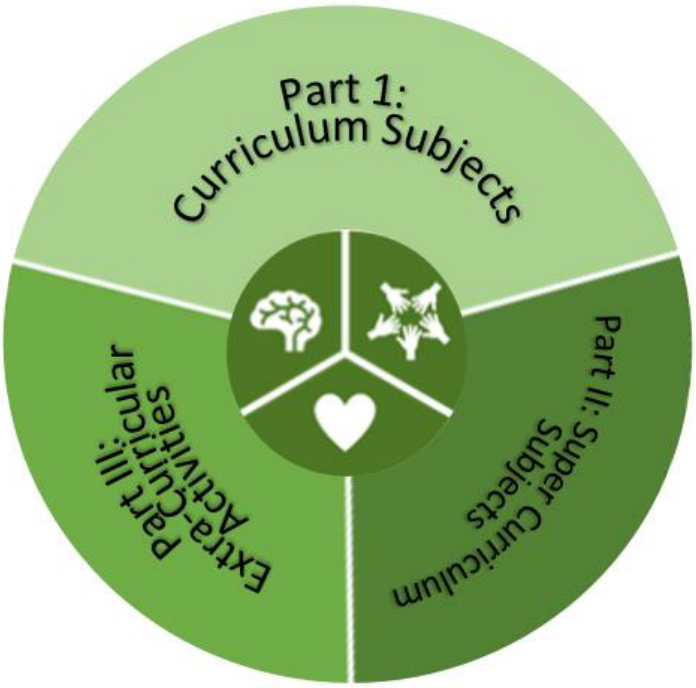
[12] https://www.psbacc.org/

Aimed at students in key stages 1 and 2, the PSB has grown to 40 schools in 2022. It has also expanded into key stages 3 and 4 in independent schools using a Skills Development Framework (SDF). In 2022 The Learning Skills Trust[13] was created to incorporate both the PSB and the SDF.

## School-based Baccalaureates

A few schools in England have begun to use the term 'baccalaureate' to distinguish their curriculum offer from the EBacc. Wood Green School, for example has a distinct baccalaureate[14] offer at key stages 4 and 5. Figure 3 shows how, for example, the 16-19 curriculum is organised into three elements. The first part is made up of core curriculum subjects, typically 3 or 4 A levels. Then, for the second part, the school has created the idea of a Super Curriculum involving an Extended Project Qualification, work experience and sixth form enrichment activities. The third part is made up of extracurricular activities - learning a new skill independently, doing regular physical activity and doing some community service or some community activism. An alternative way of completing the third element is to do the Duke of Edinburgh Award at gold level.

**Figure 3. The Wood Green Baccalaureate at key stage 5**




Another example of a local initiative is the Priory Baccalaureate, developed within the Priory Federation of Academies Trust and made up of an EPQ, a Priory project and a personal development programme[15].

The National Baccalaureate Trust (NBT) is currently enabling more schools to develop their own baccalaureates to be launched in September 2023. The NBT is not an official awarding body but its national peer-to-peer accreditation process and badging will lend credibility and validation to the programmes that schools and colleges devise[16].

[13] https://learningskillstrust.com/

[14] https://www.wgswitney.org.uk/learning/wood-green-baccalaureate

[15] https://teacherhead.com/2017/04/05/the-national-baccalaureate-for-england-is-taking-shape-natbacctrust/

[16] https://docs.google.com/document/d/1BZSA9_Grn9t0gFLbwGXV5-d20G6ayEQzkOGwD7EUnkw/edit

# 3. An overview of international and national secondary curricula

> Countries have different visions for curriculum change that match their specific context. Nevertheless, there have been some broad global trends concerning curriculum design. The most recent one is probably the shift from a content-based curriculum to a competence based curriculum. Despite the fact that there are different categories of ideology and philosophy of the purpose of curriculum, and that the names of these categories vary, this shift in curriculum vision stresses the importance of cultivating in students certain competencies that draw on multidisciplinary knowledge and skills.
>
> Organisation for Economic Co-operation and Development (2020, p.13)

Across the world countries are considering how best formal education can prepare young people for a fast-moving and uncertain world. As England reflects on its answer to this question it may be helpful to consider some examples from international, national, state and school perspectives.

## *International*

There are many bodies shaping thinking globally, both those with a specific global remit and those which are operating with a more socially entrepreneurial intent. The following five are illustrative of some trends.

### Organisation for Economic Co-operation and Development

Pre-eminent among international bodies educationally is the Organisation for Economic Co-operation and Development (OECD). We have already met the OECD's Education 2030 vision (page 7) for the knowledge, skills, attitudes and values young people will need. But in addition to this the OECD's PISA tests shape policy and practices internationally. As well as the well-known Programme for International Student Assessment (PISA) tests in Reading, mathematics and science, there is an innovative domain[17] where new thinking is explored as concepts become robust enough to measure. The titles of the tests give a clear indication of the direction of travel:

- **2012** – Creative Problem-solving
- **2015** – Collaborative Problem-solving
- **2018** – Global Competence.

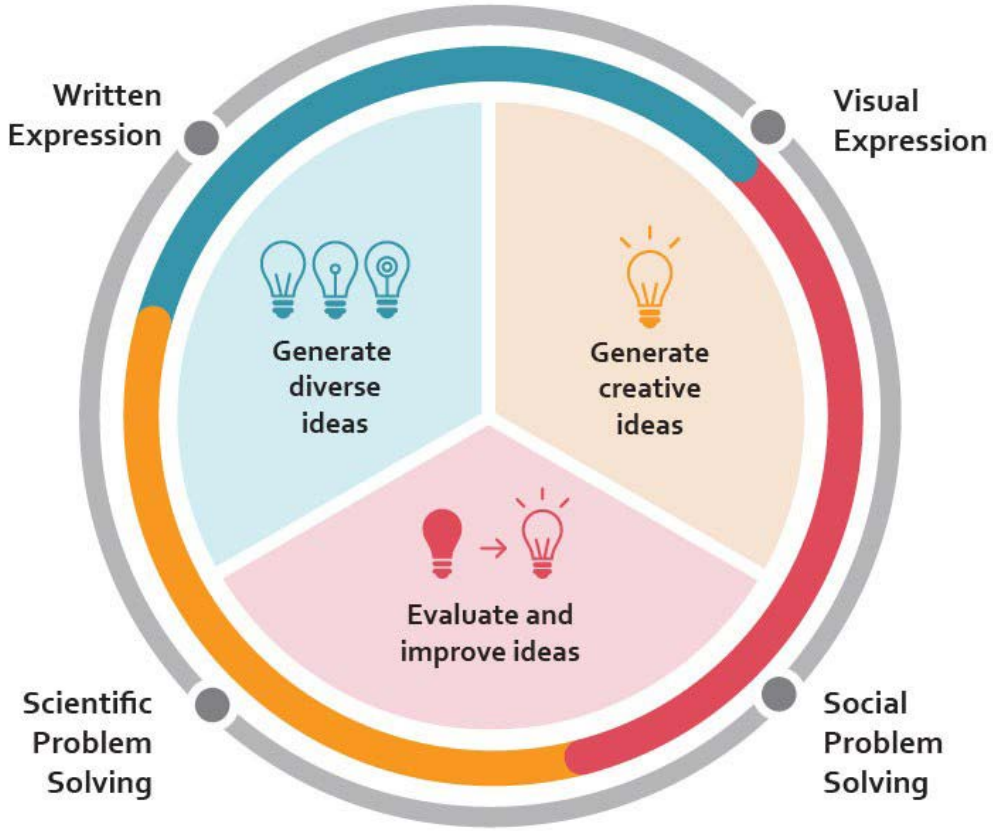
Most recently, in 2022, PISA focused on Creative Thinking. Creative Thinking in PISA 2022 is defined as:

> …the competence to engage productively in the generation, evaluation and improvement of ideas, that can result in original and effective solutions, advances in knowledge and impactful expressions of imagination. (OECD, 2019, p.8)

Figure 4 indicates the two modes of expression, written and visual, and the two domains in which the problem-solving activities are located, science and social (ie common sense where specific disciplinary knowledge is not required).

[17] https://www.oecd.org/pisa/innovation/

**Figure 4. PISA Creative Thinking Test (OECD, 2022, p. 22)**




By explicitly locating creative thinking in science the Creative Thinking Test sought to make clear the ubiquity of creativity, in other words that it is not the preserve of any one subject discipline.

Two recent publications from the OECD exploring Creative Thinking, *Thinking outside the Box* (2022) and *Supporting students to think creatively - what education policy can do* (2023) indicate that the OECD now sees its testing arm as an aspect of policy, driving changes in curriculum design and pedagogy in schools.

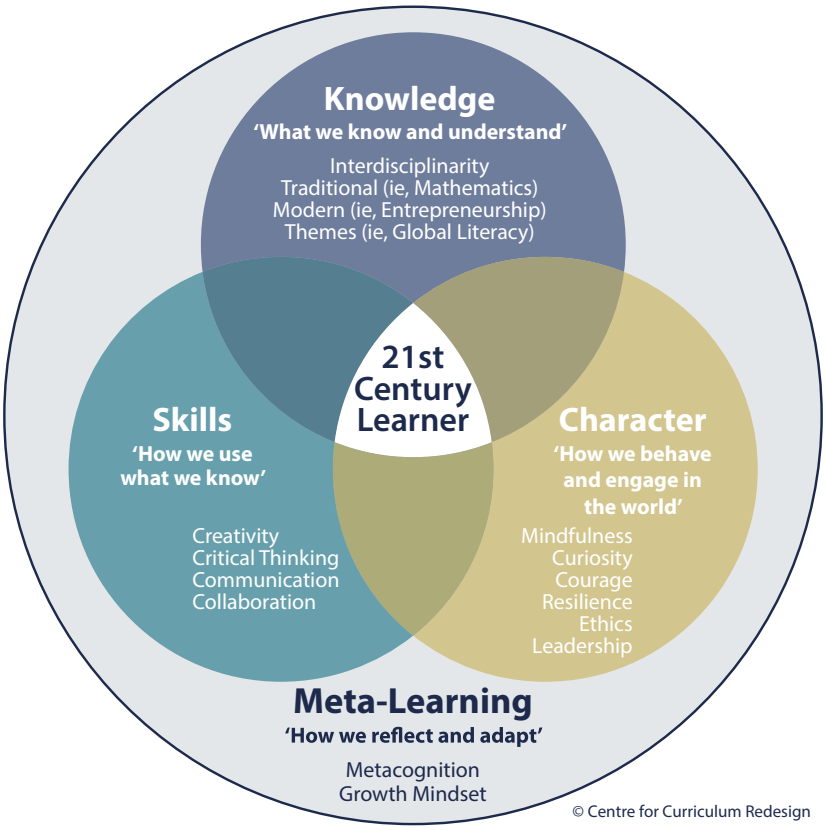
## Center for Curriculum Redesign

The US-based Center for Curriculum Redesign has consistently championed the 4Cs of creativity, critical thinking, communication and collaboration in its global curriculum framework, relating these not just to 'knowledge' and character' but also to metacognition, (Fadel, 2009), Figure 5.

Superimpose this model on any 14-19 curriculum and a number of helpful questions are raised:

- What knowledge is needed today and to what extent is this different from what is currently valued?
- Which wider skills are important and how best are these made authentic?
- To what extent can the development of character be explicitly integrated?
- How can we build in our increasing understanding of the learning sciences to better prepare teenagers for a lifetime of learning?

**Figure 5. Center for Curriculum Redesign model of curriculum[18]**




## New Pedagogies for Deep Learning

In similar vein to the Center for Curriculum Redesign, Michael Fullan has developed a curriculum model which is competence-based and focuses on 6Cs (Fullan and Scott, 2014):

**Character**
Character refers to qualities of the individual essential for being personally effective in a complex world including: grit, tenacity, perseverance, resilience, reliability, and honesty.

**Citizenship**
Thinking like global citizens, considering global issues based on a deep understanding of diverse values with genuine interest in engaging with others to solve complex problems that impact human and environmental sustainability.

**Collaboration**
The capacity to work interdependently and synergistically in teams with strong interpersonal and team-related skills including effective management of team dynamics, making substantive decisions together, and learning from and contributing to the learning of others.

**Communication**
Mastery of three fluencies: digital, writing, and speaking, tailored for a range of audiences.

[18] https://curriculumredesign.org/framework/

**Creativity**
Having an 'entrepreneurial eye' for economic and social opportunities, asking the right questions to generate novel ideas, and demonstrating leadership to pursue those ideas into practice.

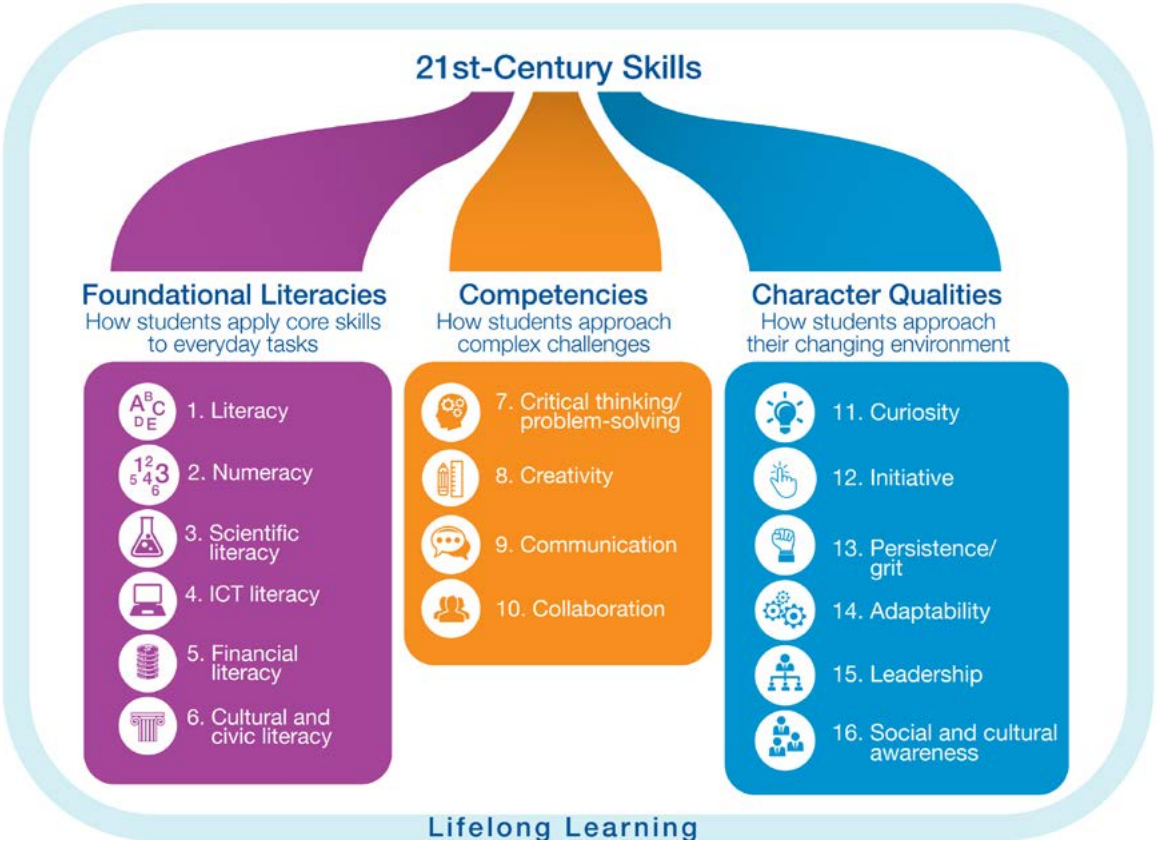
**Critical Thinking**
Critically evaluating information and arguments, seeing patterns and connections, constructing meaningful knowledge and applying it in the real world. (Fullan and Scott, 2014, p.6-7):

Taken together, Fullan and Scott argue 'these personal, interpersonal and cognitive capabilities identify the underpinnings needed by school and college graduates if they are to build the communities, institutions and indeed the societies that will be socially, culturally, economically as well as environmentally sustainable over the coming years (ibid., p.5). Fullan's model started in Canada nearly twenty years ago and is now in use across the world in more than a thousand schools.

## World Economic Forum

A widely cited framework from the World Economic Forum visualises the relationship between foundational literacies, competencies, (like the Center for Curriculum Redesign's 4Cs), and character qualities, Figure 6.

**Figure 6. A model of 21st century learning (World Economic Forum, 2015)**




Interesting here is the way that the knowledge that makes up foundational literacies is framed as 'how students apply core skills to everyday tasks'. Unlike many educational models this one, developed with business in mind, understands that all knowledge in action is about applying understanding and that this requires us to focus on some important skills.

The framing of the curriculum model as 21st Century Skills is, nevertheless, problematic as I have argued elsewhere (Lucas, 2019), suggesting:

1. that there are some skills that are especially relevant to the whole of the twenty-first century
2. that, by implication, these skills are different from those which we needed in the twentieth century, and that we know precisely what the 'new' skills are.

Its refusal to distinguish between skills which are eternally useful as opposed to those which are legitimate responses to the world we live in now is lazy. And it runs the risk of curriculum reform at 14-19 being dismissed as some kind of evangelical campaign rather than a well-evidenced argument about what young people need to be able to know, do and be today and in the foreseeable future.

### United Nations Educational, Scientific and Cultural Organisation

At the macro policy level the United Nations Educational, Scientific and Cultural Organisation (UNESCO) has led thinking on the wider purposes of education. Its International Commission on the Futures of Education (2021) makes a number of high-level proposals in terms, for example, of pedagogy, assessment and curriculum:

> Pedagogy should be organized around the principles of cooperation, collaboration, and solidarity. It should foster the intellectual, social, and moral capacities of students to work together and transform the world with empathy and compassion. There is unlearning to be done too, of bias, prejudice, and divisiveness.
>
> Assessment should reflect these pedagogical goals in ways that promote meaningful growth and learning for all students.
>
> Curricula should emphasize ecological, intercultural and interdisciplinary learning that supports students to access and produce knowledge while also developing their capacity to critique and apply it. Curricula must embrace an ecological understanding of humanity that rebalances the way we relate to Earth as a living planet and our singular home. The spread of misinformation should be countered through scientific, digital and humanistic literacies that develop the ability to distinguish falsehoods from truth. In educational content, methods and policy we should promote active citizenship and democratic participation. (p. 4)

Each of these recommendations has implications for 14-19 curricula.

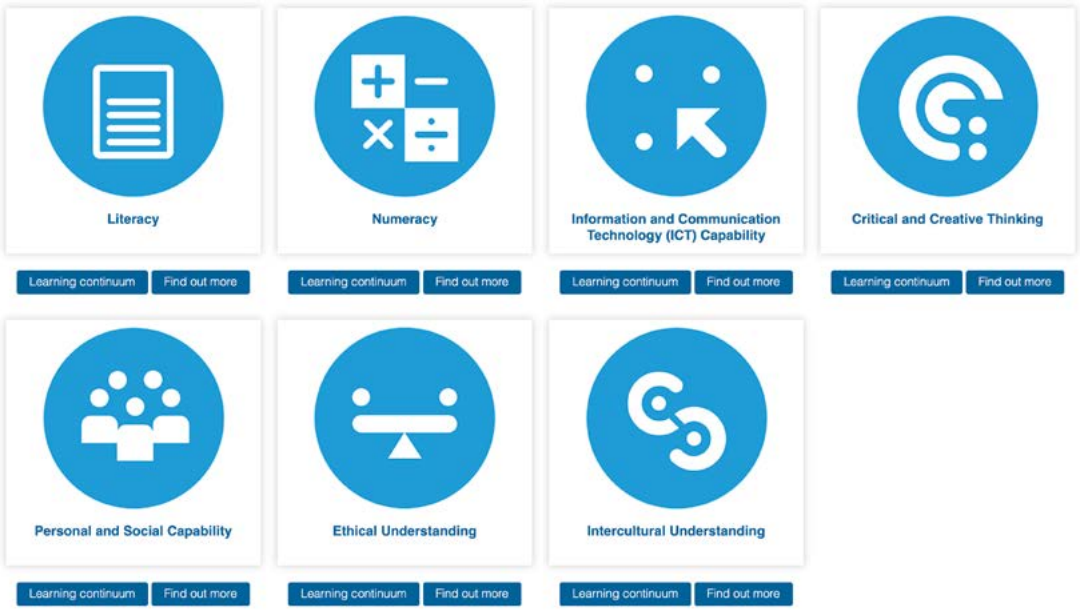
## *National*

Curricula have been changing across the world as educational priorities are reappraised. The following examples are illustrative.

### Australia

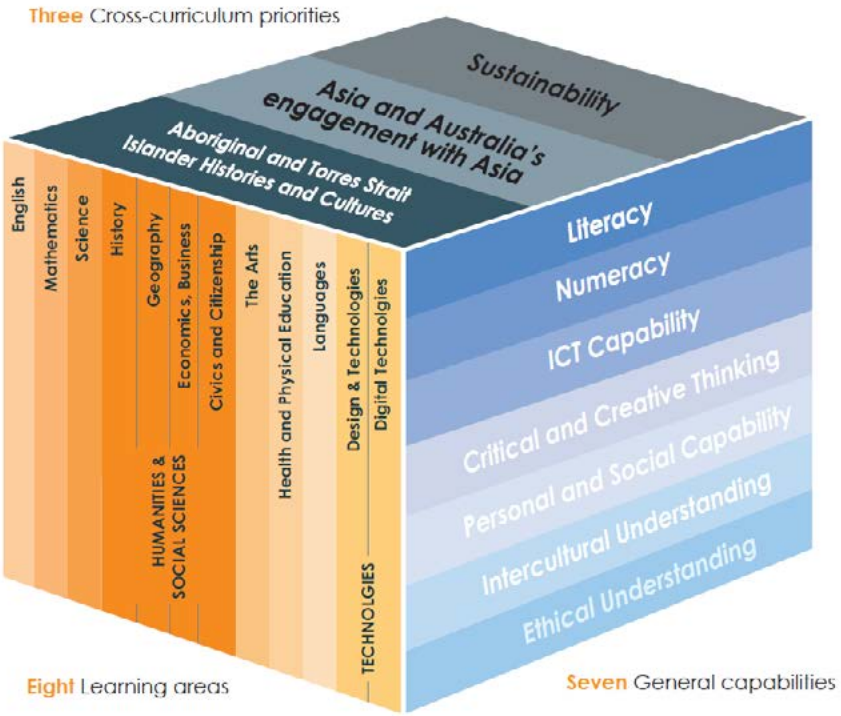
Fifteen years ago, Australia's state and federal education ministers agreed a landmark statement about the future of young Australians' learning known as the Melbourne Declaration on Educational Goals for Young Australians. This Declaration argued that young Australians needed to 'become successful learners, confident and creative individuals, and active and informed citizens'. It ushered in the idea of 'general capabilities' - important dispositions or competences - that need to be part of the Australian curriculum, Figure 7.

## Figure 7. Australian General Capabilities[19]




Of particular importance to this exploration of 14-19 curricula is the fact that while the capabilities are described as general, in fact they are tightly defined and mapped across all stages of formal education, see Appendix 1. Figure 8 shows graphically how these capabilities intersect with subject disciplines or learning areas.

## Figure 8. The Australian Curriculum




[19] https://www.australiancurriculum.edu.au/f-10-curriculum/general-capabilities/

There is considerable current activity in Australia focusing on the ways in which, by reconsidering the assessment system, upper secondary school can better prepare young people for learning, work and life. A recent review (Education Council, 2020) recommended that all students should leave school with a Learner Profile.

It is proposed that the Learner Profile include complementary academic and non-academic measures in order to provide a holistic view of each student's capabilities for employment and active citizenship. These should include:

- the Australian Tertiary Admission Rank (ATAR) (where relevant)
- individual subject results
- Vocational Education and Training competencies and certificates
- minimum literacy, numeracy and digital literacy achievement
- broader capabilities (for example, employment experiences, caring responsibilities, sports achievements, interests and hobbies).

> Students would be encouraged to use a Learner Profile to identify their strengths and weaknesses while they are still studying, and use these both to set goals and see how their profiles match up to potential pathways…The Learner Profile should be something that students could commence working on in Year 9 as part of a pathways planning process. The students should be given agency to identify their own capabilities and assisted to evidence and articulate these (Education Council, 2020, p.49).

The Australian Tertiary Admission Rank (ATAR), incidentally, is a rank, not a mark, a number between 0.00 and 99.95 that indicates a student's position relative to all the students in their age group. So, an ATAR of 80.00 means that a student is 20 per cent from the top of their age group. Universities use the ATAR to help them select students for their courses.

## Canada

In 2016 the Canadian Ministry of Education identified six global competencies to guide education - critical thinking and problem solving; innovation, creativity and entrepreneurship; learning to learn/self-awareness and self-direction; collaboration; communication; and global citizenship and sustainability, Figure 9.

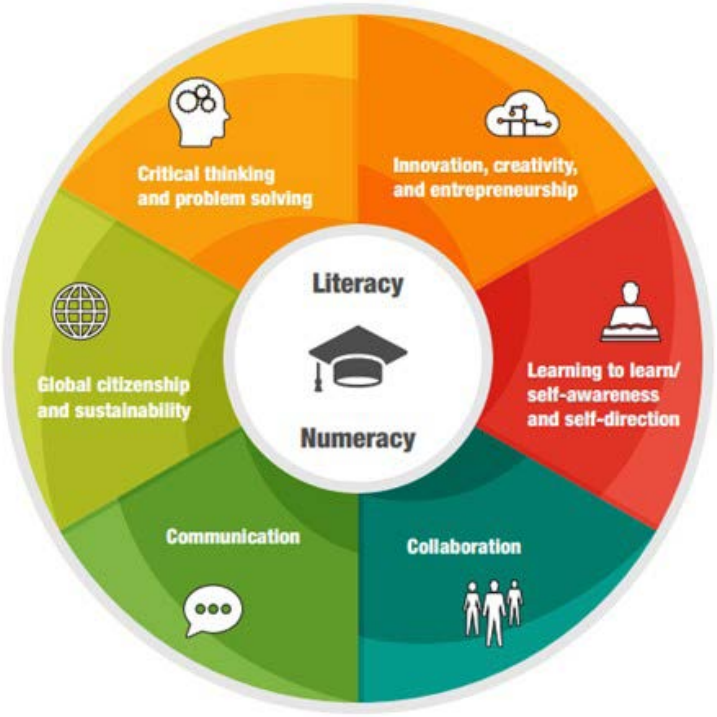
As in Australia, while the direction is set nationally, the delivery of education is devolved to States. The State of Alberta has its own version of the competencies - critical thinking, problem-solving, managing information, creativity and innovation, communication, collaboration, cultural and global citizenship, and personal growth and well-being - and helpfully maps these against each subject within the curriculum[20] to enable teachers to plan curricula which focus on both subject content and competencies.

Within Alberta the Edmonton Regional Learning Consortium has developed professional learning materials for teachers who wish to deliver the Albertan programmes of study using problem-based learning and is explicitly endorsed by the State. It is designed:

> …for teachers, learning coaches and school leaders. It explains how to design and engage students in projects that begin with inquiry and end with a product, performance, or service that is shared with an authentic audience. (Edmonton Regional Learning Consortium, no date, p.2).

[20] https://education.alberta.ca/competencies/competencies-in-subjects/everyone/documents/

**Figure 9. Canada's six global competences**




It is worth remembering that McMaster Medical School in Canada led the way fifty years ago by switching to problem-based learning for the training of doctors in its medical school (Servant-Miklos, 2019).

## Finland

Finland introduced a new national curriculum in 2014. Subjects such as mathematics, environmental studies, biology, geography, physics, and health education sit side by side with transversal, cross-cutting skills and capabilities needed in many subject disciplines and for success in life, Figure 10.

**Figure 10. Transversal competences in Finnish general upper secondary education**

One particularly innovative development is the decision to require Finnish secondary schools to teach at least one module a year which is inter-disciplinary. Interestingly, multidisciplinary learning is linked with creativity in a single unified competence:

**Multidisciplinary and creative competence**

- Curiosity and motivation to learn; to find meanings and to combine things in new ways
- Self-regulated learning, factual criticism, development of learning-to-learn skills
- Multiliteracy in the digital era.[21]

In Finland the approach used is referred to as phenomenal learning. There are five dimensions of a phenomenon-based approach to education: holisticity, authenticity, contextuality, problem-based inquiry, and open-ended learning processes (Symeonidis and Schwarz, 2016).

## France

Given the semantic history of the word 'Baccalauréat', France has to be included in any discussions of secondary education. Established by Napoleon I in 1808, the French Baccalauréat or 'bac' is a group award taught and examined during the final two years of secondary education. There are three different types of Baccalauréat, usually offered in separate schools:

Baccalauréat Général for academic subjects

Baccalauréat Technologique for technical vocational subjects in the applied sciences, design and applied arts, hospitality science and management or artistic performance studies in music and dance

Baccalauréat Professionnel: general and vocational subjects including management, administration and logistics

Between the ages of 16-17, regardless of the specific bac course being studied, there is greater breadth than is the case in England, with students studying French, history, geography, a foreign language, philosophy, maths, and science.

The bac used to be a high-stakes end of formal schooling written set of examinations but since 2021 has changed to include 40% of teacher assessment and a new oral component. The bac now combines continuous assessments (contrôle continu) with final examinations. During the 11th and 12th grades students take different exams based on nationally designed exercises, focused on History and Geography, Foreign languages, Science culture, PE and one specific subject they have chosen.

Throughout the two years, students also take different tests set by their teachers for each compulsory subject. These assessments (livret scolaire) contribute 10% of the final grade with final written examinations. At the end of 11th grade students take a French language and literature final exam in June, as the first part of the Baccalaureate. They are tested on their written skills and on an oral presentation of a text. At the end of 12th grade students take 3 written exams (Philosophy and two special subjects they have chosen and studied during 11 and 12th grade) and one oral exam (le grand oral) about a personal project linked to a special subject. These exams contribute 60% of the final grade[22].

In 2019, a total of 743,594 candidates took the French Baccalauréat with 398,153 (53.5%) taking the Baccalauréat Général, 155,661 (21%) the Baccalauréat Technologique and 189,780 (25.5%) the Baccalauréat Professionnel[23].

[21] https://www.oph.fi/en/education-and-qualifications/transversal-competences-finnish-general-upper-secondary-education

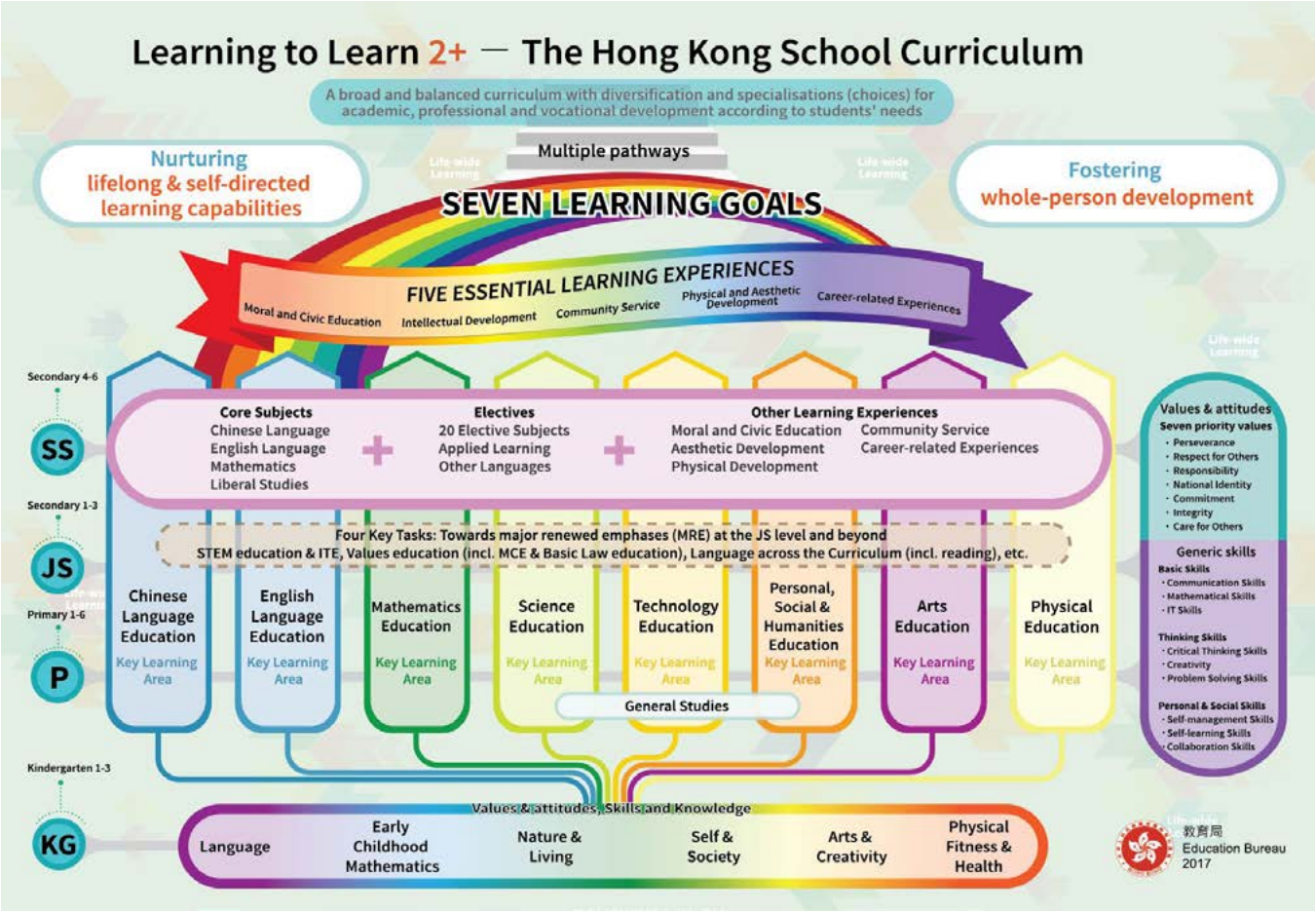
[22] https://frenchlanguagek12.org/french-curriculum-schools/french-baccalaureate

[23] https://qips.ucas.com/qip/france-baccalaureat-general-assessed-from-2021

## Hong Kong

In 2001 Hong Kong began a journey of curriculum reform. Its 2017 curriculum, Figure 11, focuses on whole-person learning and blends three generic skills with individual subjects. For the Hong Kong Diploma of Secondary Education Examination there is a blend of core subjects with a wide range of electives. Students also undertake a mini-thesis for 20% of their final marks.

**Figure 11. Hong Kong's curriculum at a glance**



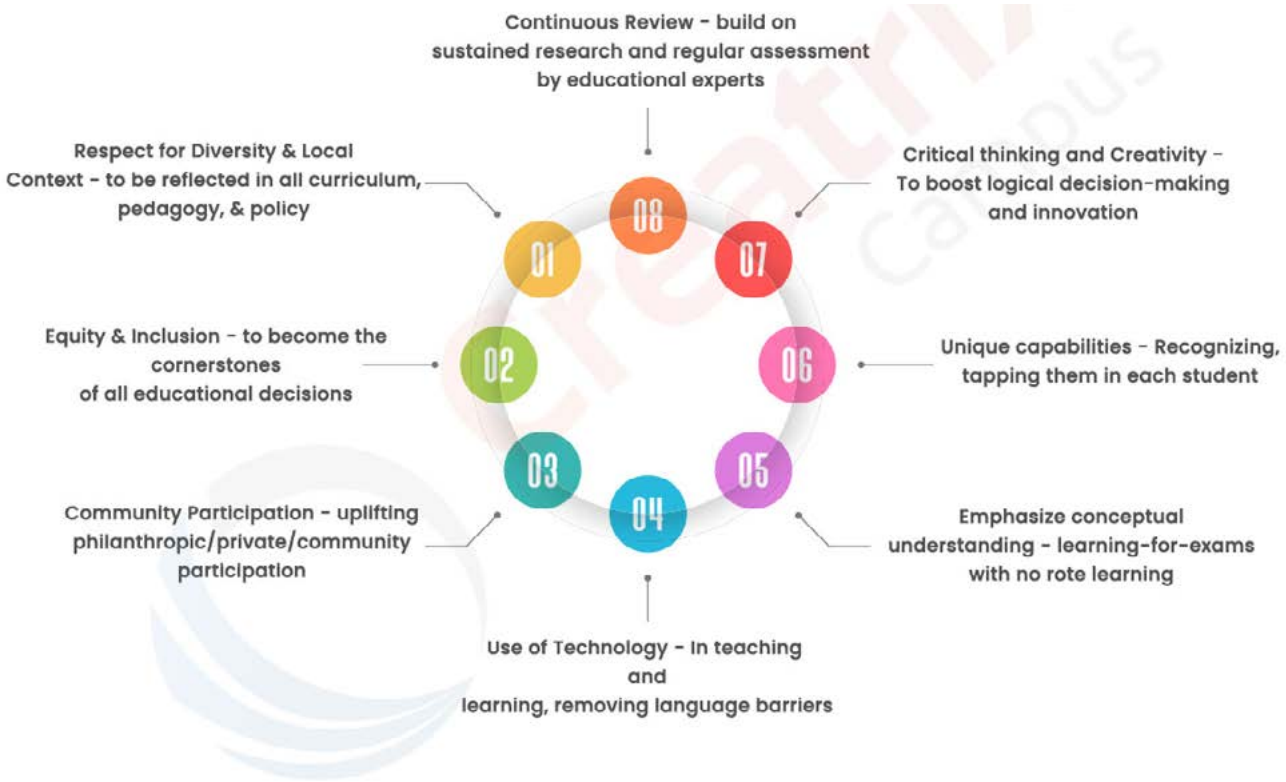

Since 2021 some of Hong Kong's upper secondary curriculum has changed to align it more with China's education systems.

## India

India's National Education Policy 2020 represents a fundamental shift in policy on earlier thinking. In a radical departure from a more didactic approach, in the new Indian curriculum, Figure 12:

> …curriculum content will be reduced in each subject to its core essentials, to make space for critical thinking and more holistic, inquiry-based, discovery-based, discussion-based, and analysis-based learning. The mandated content will focus on key concepts, ideas, applications, and problem-solving. Teaching and learning will be conducted in a more interactive manner; questions will be encouraged, and classroom sessions will regularly contain more fun, creative, collaborative, and exploratory activities for students for deeper and more experiential learning. (Ministry of Human Resource Development, 2020, p.12)

**Figure 12. Key features of India's National Education Policy 2020**




## Latvia

Latvia's School2030 initiative has, after consultation with teachers, developed a competence-based approach to the curriculum. Transversal competences include critical thinking and problem solving, creativity and entrepreneurship, self-learning, cooperation, civic participation, and digital skills. The 2030 review has arisen out of a sense that Latvian students are too reliant on memorising, lacking skills for deeper learning, for processing data, for working teams and generating solutions for non-standard situations. As a consequence schools are being asked:

> …to offer children and youths such learning experience, which would results in student's expertise or competence: the ability to use knowledge, skills and express attitudes in a complex way, solving problems in various real-life situations[24].

## New Zealand

The National Certificate of Educational Achievement (NCEA) is the main secondary school qualification in New Zealand. New Zealand's curriculum is based on five very general key competencies (Ministry of Education, 2015) – Thinking, Relating to others, Using language, symbols, and texts, Managing self, and Participating and contributing.

A recent development is the enhanced New Zealand Record of Achievement (NZRoA), the official transcript of national qualifications and standards. The NZRoA is a comprehensive record that is useful for job-searching,

[24] https://www.izm.gov.lv/en/article/description-educational-curriculum-and-learning-approach?utm_source=https%3A%2F%2Fwww.google.co.uk%2F

applying for further learning and supporting lifelong learners. It is also a secure electronic record that is accessible anytime by students. Among other things it allows learners to:

- create a full or partial electronic transcript of their qualifications, awards and standards
- choose to add the education organisation which awarded the qualification
- organise achievements by date or levels
- display their most relevant and/or most up-to-date qualifications and components of learning
- save and share a pdf of the record with a third party, with a service available on the The New Zealand Qualifications Authority website for the recipient to verify the record has not been altered, and is an authentic document[25].

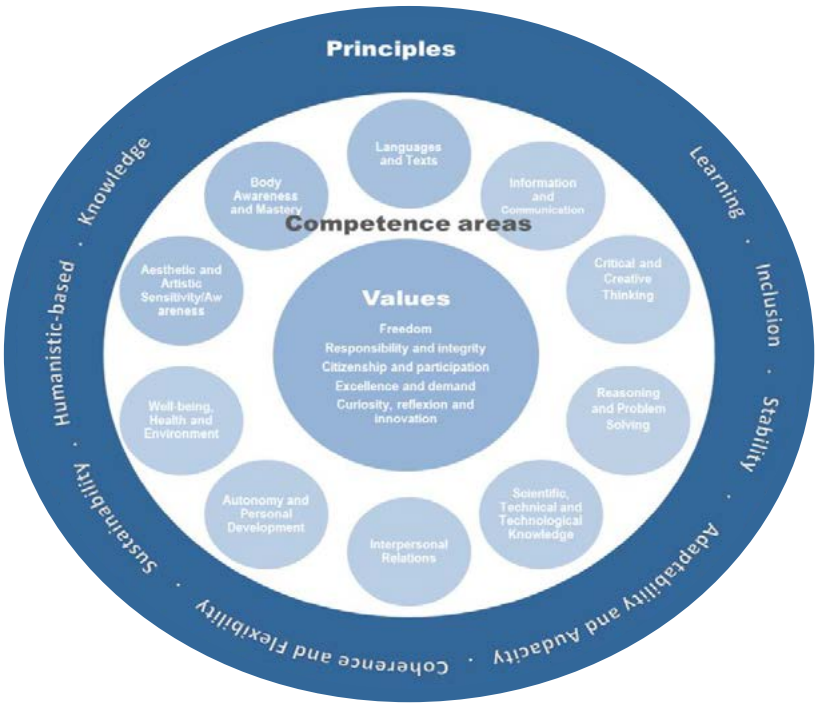
## Norway

The Core Curriculum for Norway since 2017 is underpinned by six aspirational and interrelated values, which together provide a clear and coherent vision for education. Explicit in the Norwegian curriculum is a commitment to interdisciplinary learning focused on three topics - health and life skills, democracy and citizenship, and sustainable development[26].

## Portugal

Since 2017 the Portuguese Curriculum has been organised around ten competences, one of which is critical and creative thinking. Figure 13 shows the range of competences which make up a student's profile at the end of their schooling. It assumed that each curriculum area contributes to the development of all competence areas and so competence areas are not strictly separated into specific components or curriculum domains (Organisation for Economic Co-operation and Development, 2018).

**Figure 13. Conceptual Framework for Students' End of Compulsory Schooling Profile in Portugal**



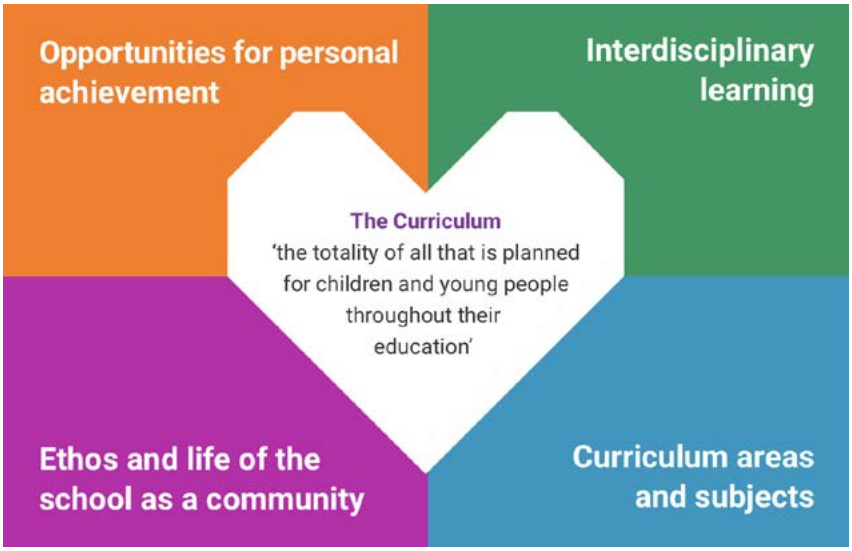

[25] https://gazette.education.govt.nz/articles/access-your-achievement-anytime-anywhere/

[26] https://www.udir.no/lk20/overordnet-del/prinsipper-for-laring-utvikling-og-danning/tverrfaglige-temaer/?lang=eng

## Scotland

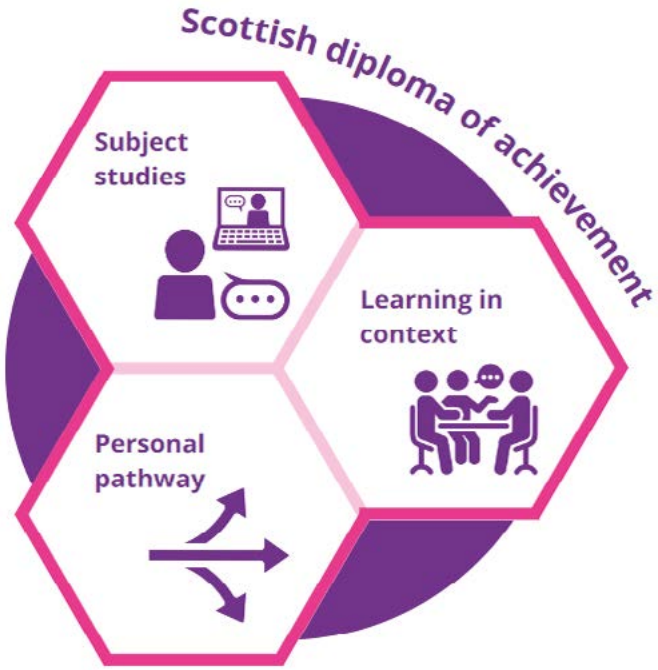
The Scottish Curriculum for Excellence is built around four capacities aimed at helping children and young people to become successful learners, confident individuals, responsible citizens and effective contributors. Scotland, like a number of countries is increasingly seeing interdisciplinary learning as important, Figure 14:

**Figure 14. Scotland's broad approach to curriculum[27]**




The Hayward Review has proposed a new Scottish Diploma of Achievement, in effect a national profile, Figure 15.

**Figure 15. A Scottish Diploma of Achievement[28]**



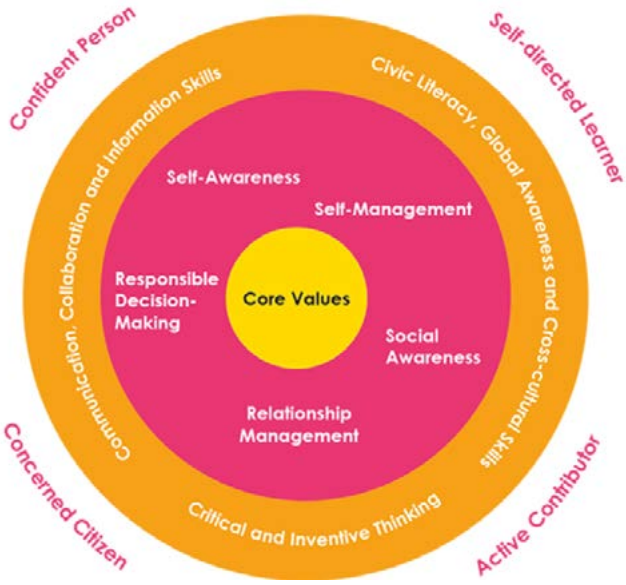

[27] https://scotlandscurriculum.scot/4/

[28] https://www.gov.scot/binaries/content/documents/govscot/publications/progress-report/2023/03/independent-review-qualifications-assessment-scotland-interim-report/documents/phase-3-briefing-paper/phase-3-briefing-paper/govscot%3Adocument/phase-3-briefing-paper.pdf

## Singapore

The Singaporean curriculum frames the education of its citizens in terms of some specific desired outcomes, see Figure 16.

**Figure 16. Singapore Framework for 21st Century Competencies and Student Outcomes[29]**




The upper secondary curriculum is broad, based on a blend of core examination subjects, elective examination subjects, and compulsory non-examination subjects. The six core examination subjects are studied for about eight hours a week and students choose three or four elective subjects to study for up to six hours a week. In the PISA 2015 tests Singapore was the top performing OECD country in science, mathematics and reading.

## Sweden

In 2018 The Swedish Ministry of Education and Research revised the national curriculum students (Swedish Ministry of Education and Research, 2018). In Sweden the curriculum is based on national programmes, each one of which covers a series of foundation subjects - English, history, physical education and health, mathematics, science studies, social studies, Swedish, and religion. A number of other subjects relating to a particular programme are also chosen. Students have some 19 hours of tuition a week spread over three years rather than two.

## Wales

The new Welsh Curriculum introduced into schools in 2022 is underpinned by four pillars:

1. ambitious, capable learners, ready to learn throughout their lives
2. enterprising, creative contributors, ready to play a full part in life and work
3. ethical, informed citizens of Wales and the world
4. healthy, confident individuals, ready to lead fulfilling lives as valued members of society.[30]

On pages 10 and 11 we saw how the Welsh Bacc seeks to bring together these four sets of ideas to create breadth and variety at upper secondary level.

[29] https://www.moe.gov.sg/education-in-sg/21st-century-competencies

[30] https://hwb.gov.wales/curriculum-for-wales/designing-your-curriculum/developing-a-vision-for-curriculum-design/#curriculum-design-and-the-four-purposes

## *A focus on post 16*

It is clear from the fourteen countries we have touched on that most either have adapted or are in the middle of changing their provision at 14-19. Focusing on 16-19, the Royal Society made a different selection of countries and states from the ones just reviewed but their conclusions are similar: England is an outlier in the narrowness of its curriculum focus, see Table 1.

As a recent policy briefing by the Royal Society summarised the position globally:

> Many countries have moved, or are moving, towards a broader and more diverse and balanced curriculum in order to equip the next generation with the skills that will help them adapt to new technologies and a changing world. Countries that provide a broader post-16 education give young people both breadth of knowledge and depth of understanding, as well as skills that allow them to succeed in the world of work.[31]

**Table 1. Compulsory subjects compared across 24 countries at upper secondary level[32,33]**

| Country/State | First language is compulsory | Mathematics is compulsory | A second language is compulsory | Science is compulsory | One or more other subjects is compulsory |
|---|---|---|---|---|---|
| British Columbia (Canada) | ✓ | ✓ | ✓ | ✓ | ✓ |
| Czech Republic | ✓ | ◘ | ◘ | – | – |
| Estonia | ✓ | ✓ | ✓ | ✓ | ✓ |
| Finland | ✓ | ✓ | ✓ | ✓ | ✓ |
| France | – | ✓ | ✓ | – | ✓ |
| Hong Kong | ✓ | ✓ | ✓ | – | ✓ |
| Hungary | ✓ | ✓ | ✓ | ✓ | ✓ |
| Ireland | ✓ | ✓ | – | – | – |
| Japan | ✓ | ✓ | – | ✓ | ✓ |
| Korea | ✓ | ✓ | ✓ | ✓ | ✓ |
| Massachusetts (USA) | ✓ | ✓ | ✓ | ✓ | ✓ |
| Netherlands | ✓ | – | ✓ | – | ✓ |
| New South Wales (Australia) | ✓ | – | – | – | – |
| New Zealand | ● | ● | ● | – | – |
| Rhineland-Palatinate (Germany) | ✓ | ✓ | ✓ | ✓ | |
| Russia | ✓ | ✓ | ✓ | ✓ | ✓ |
| Singapore | – | ◘ | – | ◘ | ✓ |
| Spain | ✓ | ✓ | ✓ | ✓ | ✓ |
| Sweden | ✓ | ✓ | ✓ | ✓ | ✓ |
| Taiwan | ✓ | ✓ | ✓ | ✓ | ✓ |
| **England** | NO COMPULSORY SUBJECTS | | | | |
| **Scotland** | | | | | |
| **Wales** | | | | | |
| **Northern Ireland** | | | | | |

[31] https://royalsociety.org/-/media/policy/Publications/2019/12-02-19-jobs-are-changing-so-should-education.pdf

[32] Table 1 is an update by the Royal Society in 2019 to table 3 from an earlier report Hodgen, J., Pepper, D., Sturman, L. and Ruddock, G. (2010). *Is the UK an Outlier? An international comparison of upper secondary mathematics education.* London: Nuffield Foundation.

[33] In the UK education is a function which is devolved to each of the four home nations and, since this data was published, the situation in Wales is evolving.

# *Schools*

It is impossible to capture the variety of 14-19 curricula at school or college level across the world. The examples that follow offer a snapshot of how the upper secondary experience could be a very different one for learners.

## Expeditionary Learning

EL Education is the result of a collaboration between The Harvard Graduate School of Education and Outward Bound USA. Founded on the thinking of Ron Berger[34], there are over 150 Expeditionary Learning (EL) schools in 30 states in the USA. EL has transformed schools in general and the High School experience in particular. Of particular note in their model are:

> **Their approach to curriculum** – real world, bringing it 'alive for students by connecting learning to real-world issues and needs. Academically rigorous, project-based learning expeditions, case studies, projects, fieldwork, and service learning inspire students to think and work as professionals, contributing high-quality work to authentic audiences beyond the classroom.'
>
> **Their approach to pedagogy** – 'Classrooms are alive with discovery, inquiry, critical thinking, problem solving, and collaboration. Teachers talk less. Students talk (and think) more'.
>
> **Their approach to assessment** – 'Leaders, teachers, and students embrace the concept of student-engaged assessment in education. Why? Because it builds student ownership of learning, drives achievement, and focuses students on reaching standards-based learning targets. Students continually conduct learning assessments and improve the quality of their work through models, reflection, critique, rubrics, and expert assistance'.[35]

[34] https://eleducation.org/about/staff/ron-berger

[35] https://eleducation.org/who-we-are/our-approach

## University Technical Colleges

Another group of schools that has significantly rethought the nature of 14-19 education is University Technical Colleges (UTCs). Born out of the evidence of growing regional skills gaps between employer needs and what schools are providing as well as a growing recognition of the importance of digital skills, UTCs are established by companies and universities in areas of high demand for talent.

> They provide a bridge between the world of education and the world of work, training young people in the technical entrepreneurial skills and personal and collaborative skills needed to succeed in the modern workplace. Each UTC works with a network of local industry partners to design a learning programme which covers not only the core curriculum of English, Maths, and Sciences, but also technical qualifications taught by specialist staff with industry standard equipment. The UTC programme has a strong emphasis on employer engagement, including real-life project-based learning, which engages students and develops their personal attributes'[36]

Today, 47 UTCs are open across England, educating some 19,000 students, and supported by more than 400 employers and universities.

## Big Picture Learning

Big Picture Learning was established in 1995 in the USA with the intention of putting students directly at the centre of their own learning. It now has a network of more than 275 schools across the world. While each Big Picture school is different, there are some key principles, here articulated by the Big Picture Learning International Network and described as a 'New Design for Learning' with a set of key principles:

- Students pursue their passions
- They do internships in the community two days a week
- They design real, complex projects for learning
- They learn from adult mentors
- They present their learning via exhibition
- They are focused on their futures
- Families are involved in school and in their children's learning[37].

[36] https://www.utcolleges.org/our-mission/utc-aims/

[37] https://www.bigpicture.org.au/files/u342/the-big-picture-brochure-web_v2.pdf

# 4. Trends in assessment

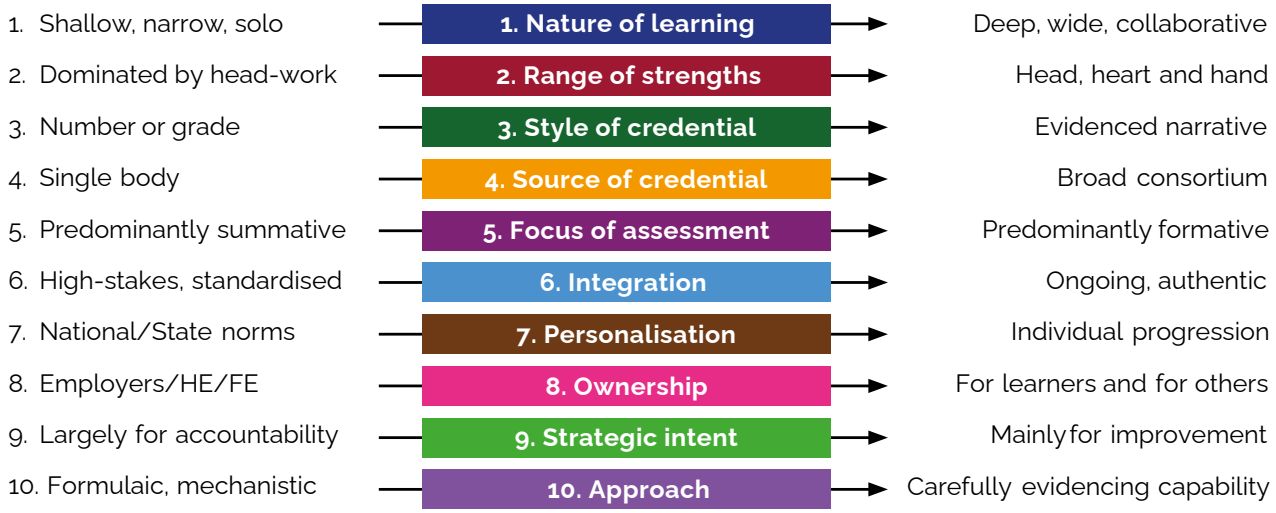
To solely use standardised achievement tests is like casting a net into the sea - a net that is intentionally designed to let the most interesting fish get away. Then, to describe the ones that are caught strictly in terms of their weight and length is to radically reduce what we know about them. To further conclude that all the contents of the sea consist of fish like those in the net compounds the error further. We need more kinds of fish. We need to know more about those we catch. We need new nets.

William T Randolph, Commissioner of Education, State of Colorado, USA[38]

As William Randolph puts it, secondary schools the world over need new kinds of nets to catch the whole range of young people's skills, knowledge and dispositions. Across the world there is a growing sense that our assessment practices are too narrow, unnecessarily high-stakes and overly geared to subject disciplines. Two organisations, New Metrics for Success in Australia[39] and Rethinking Assessment in England[40] are in the forefront of a movement to develop more nuanced, multi-modal ways of evidencing the full range of young people's strengths.

There are many examples of innovation in the assessment of the later years in formal education. These have been explored in depth elsewhere (Lucas, 2021) and key trends are summarised in Figure 17.

**Figure 17. Global trends in assessment**




As we reimagine 14-19 education it is vital that we constantly consider assessment in the context of curriculum and pedagogy, as a change in any one of these can significantly change the 14-19 experience. Take the first of the trends above, for example. If we seek to evidence learning which is deep, broad and often collaborative then curricula need to be devised which offer opportunities for extended investigations which in turn suggests longer lessons and the choice of pedagogies that engage learners in asking and exploring significant questions.

[38] https://pz.harvard.edu/sites/default/files/AssessmentReimagined_Booklet_0.pdf

[39] https://education.unimelb.edu.au/new-metrics-for-success

[40] https://rethinkingassessment.com/

Conversely, if the expected assessed outcomes for the majority of 18 and 19 year olds are 3 or 4 A levels, then it is difficult to see how we can speak with any confidence about school leavers' ability to undertake authentic, extended tasks within and beyond school or be ready as learners to come with the challenges of higher or further education or be adaptable and confident enough to be successfully employed. Pedagogy and assessment are so closely connected. How something is assessed influences the way it is taught; how something is taught will suggest the most appropriate ways of evidencing what learners have learned.

As we rethink 14-19 education it might be helpful to consider how we could broaden the repertoire of pedagogies and assessment methods used in schools and colleges, settling on a range of 'signature' practices that are most appropriate to the 14-19 age range.

## *Expanding the range of pedagogies*

In earlier research we have identified a wide range of teaching and learning methods used in schools and colleges to consider (Lucas, Spencer and Claxton, 2012; Lucas and Spencer, 2020):

- By being instructed
- Through the arts
- By being coached
- Through conversation and listening
- By deliberate searching
- By following others
- By making
- Through extended writing
- Through sports
- Through feedback
- By real-world problem-solving
- Through expeditions
- By critical thinking
- On the fly
- By competing
- Through simulation and role play
- By reading
- Through museums
- By performing
- By practising
- Through a focus on life skills
- By travel / being away from home
- Joining clubs /trying something new
- Through researching
- By teaching others
- By being mentored
- From others' experiences
- Through play and games
- By exercising
- Being outdoors with nature
- By imitation
- By socialising
- By volunteering
- In and through worship
- Through virtual environments
- Online.

Although this is a long list it is by no means exhaustive. Some items, the first and the last for example, can take many forms. Some work well in the context of others, for example real-world problem-solving, expeditions and critical thinking. In the context of the discussion of 14-19 education they serve as a simple reminder of the fact that many young pupils currently experience a restricted range of learning methods.

## *Expanding the range of assessment methods*

Similarly it will be helpful to look beyond the default position of a pen and paper examination so beloved at 16 and at the end of formal schooling. Each of the following assessment methods, for example, is in use at this stage of education somewhere in the world, sometimes in general education, frequently in technical or vocational education:

**Adaptive testing** – where questions are adapted in real time depending on the ability of each test taker and on how well the test taker has answered earlier questions

**Assignment** – typically lasting several hours and spread over a number of days where candidates respond to a brief or a scenario and demonstrate their competences in the way they approach the assignment; can be individual or group

**Case study** – typically depicting a real-life situation in which problems need to be solved or a scenario worked through

**Comparative judgement** – a process requiring the assessor to make a relative judgement, not an absolute one. Markers are asked to choose between two student samples, which one is better. This process is repeated with several judgements made by a number of teachers.

**Coursework** – written or practical work produced by a student during a course of study, typically assessed and moderated by teachers in order to count towards a final mark or grade.

**Dissertation/Extended essay** – a long piece of writing requiring original research

**Exhibition** – a demonstration or display of a student's work, often as the culmination of an inquiry, and designed to show what has been achieved and learned

**Observation** – a test where an observer watches a participant perform a task and rates their performance, typically using criteria or rubrics to match their observations to a pre-agreed set of standards

**On demand** – a test that is taken when the learner is ready like the driving test or a music grade exam

**Open-book** – allowing a student to use source texts and their own notes, in some cases the Internet, so that they can focus not on memorisation but on analysis, synthesis and evaluation

**Oral** – like the viva in post-doctoral study, an oral is a structured opportunity for a student to present their work and be questioned on it

**Peer** – peer assessment or peer review is a structured process for students to critique and provide feedback to each other on their work

**Performance-based** – requiring students to create a product or answer a question or work through a task that will demonstrate their skills and understanding

**Portfolio** – a collection, real or virtual, of work in progress, final work or artefacts relating to a course of study, the selection of which is organised by the student depending on the audience

**Practical** – as its name suggests, is a demonstration of knowledge and skills in action, observed by an assessor

**Presentation** – a way of communicating, either as an individual or in a group, what has been learned about an aspect of what has been studied and with the potential to use a range of media and be delivered as it would be in the real world

**Project** – common in design education and increasingly more widely used, is a way of demonstrating a student's thought processes in approaching a project as well as the outputs or outcomes of their investigation

**Scenario-based** – working from an imagined scenario, a student is asked to undertake a series of tasks, often of increasing complexity that arise from the scenario

**Written** – the predominant mode of assessment in secondary education, sometimes requiring many short answers, sometimes longer more exploratory ones.

As with the earlier consideration of teaching and learning methods, the list above serves as a spur to teachers to consider expanding the range of assessment methods they use and as a reminder to policy-makers and exam boards of the many well-evidenced options that already exist.

Recent work by EDSK (2023) has begun to explore alternatives to paper and pencil testing such as coursework and controlled assessments, oral exams, portfolios, extended essays and projects, and performance-based assessments. EDSK looked at five indicators - validity, reliability, real-world applicability, practicality and credibility - but its framing of the issue was heavily skewed towards reliability and credibility which, in turn, unsurprisingly tends to support the status quo and be less open-minded to alternative methods. It also does not address the benefits in terms of all but practicality of using multi-modal assessment, in other words benefitting from a blend, of, for example project- and performance-based methods with either a structured oral examination or a pencil and paper test of the more theoretical aspects of the learning.

## *From paper and pencil to portfolios of evidence*

For a long while the predominant method of assessment at 14-19 has been a paper and pencil test, typically taken at the same time and in the in the same place as many others in the same year within an institution and normally externally set, marked and moderated. While there are arguments for and against such assessments (Richmond and Regan, 2023) these kinds of tests tend to endure because of the credibility they have (brands like A levels are seen as the' gold standard' and are externally set and marked) and the practicality of organising them (it's easier to batch up students for testing at the same time and plan teaching and revision accordingly).

Whether tests are valid, reliable or authentic/suitable for the real world is rarely considered. Drawing on publicly available data from organisations such as Ofqual, Dennis Sherwood has argued[41] that grades in GCSE and A level are frequently accurate only to one grade either side (Sherwood, 2022).

Across the world international bodies, countries, states, districts, clusters of schools and individual schools are moving away from the bluntness of numbers or grades to more nuanced ways of describing and evidencing students' achievements, both as individuals and in groups, in a deliberate attempt to give learners more control over how they make best use of the experiences and learning they have accrued. The examples below are illustrative but not exhaustive; this is a very fast-developing field.

### Mastery Transcript Consortium

The Mastery Transcript Consortium[42] (MTC) is an alliance of schools seeking to capture the full range of a students' strengths developed at high school (rather than relying on grades) and communicating these to universities or employers. The idea began in 2017 after initial work at Hawken School, Cleveland, USA.

[41] https://rethinkingassessment.com/rethinking-blogs/unreliable-grades-do-great-damage-this-must-be-fixed/

[42] https://mastery.org/

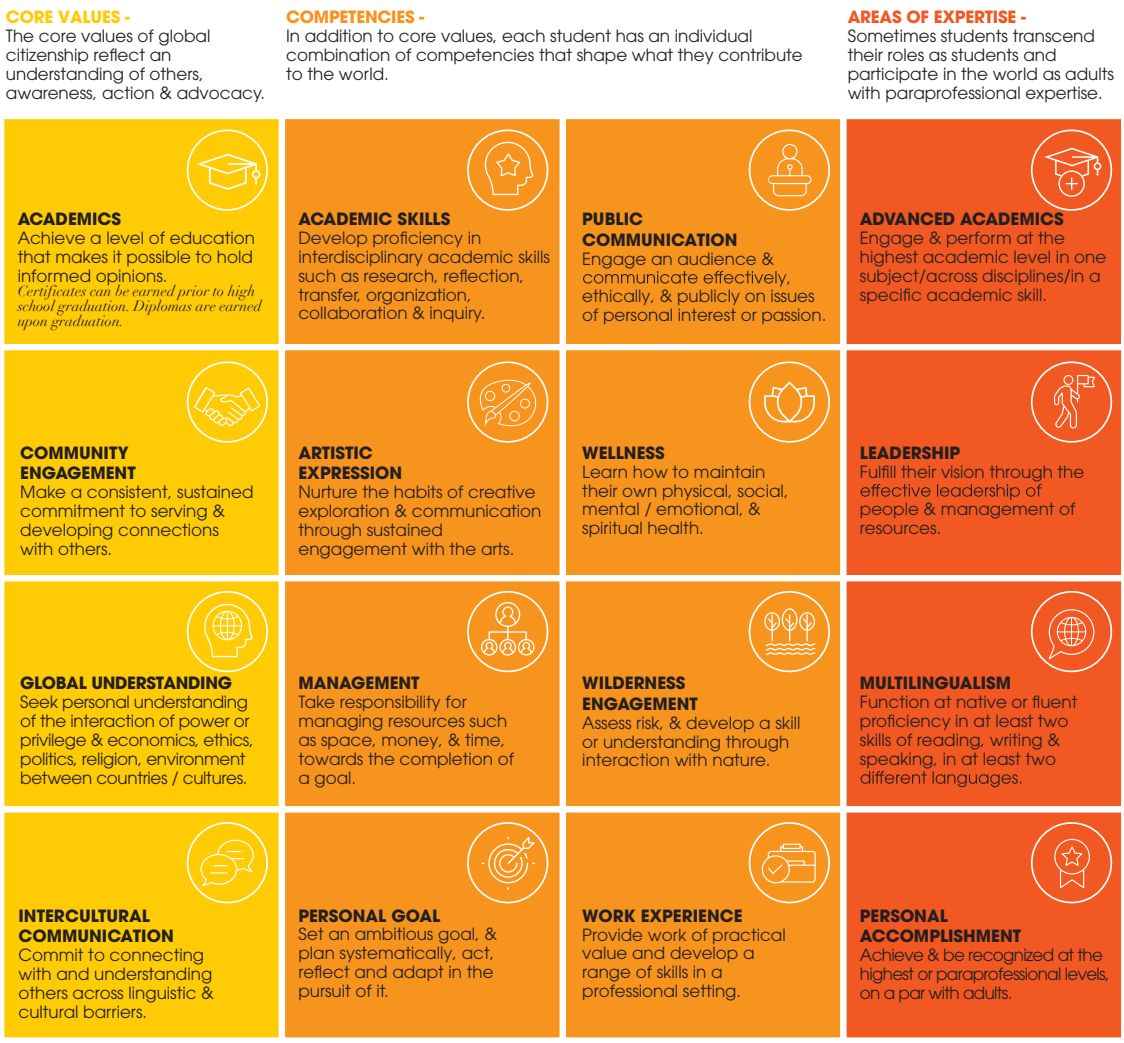
With member schools, MTC has co-designed and built a software platform that members use to create scalable, flexible learning records, Mastery Transcripts and MTC Learning Records for their learners and deliver them securely to colleges and/or employers. Competencies are defined and certified by members; MTC does not mandate a specific set of skills.

The Mastery Transcript and MTC Learning Record provide a visual summary that can be quickly scanned, with additional information accessible beneath for readers who want to explore a learner's credentials in more depth. Learners own their own profile page and can choose to feature particular projects and achievements. The published version remains an official record, and it contains information to help readers understand the learner's achievements in the context of their school or programme. There are currently 384 schools across the world, with the vast majority located in the USA. A particular achievement is that the Mastery Transcript is now accepted in 300 higher education institutions.

## The Global Citizen Diploma

The Global Citizen Diploma[43] is a high school credential that allows students to describe their whole learning in the context of becoming a global citizen, Figure 18.

**Figure 18. Global Citizen Diploma Elements**

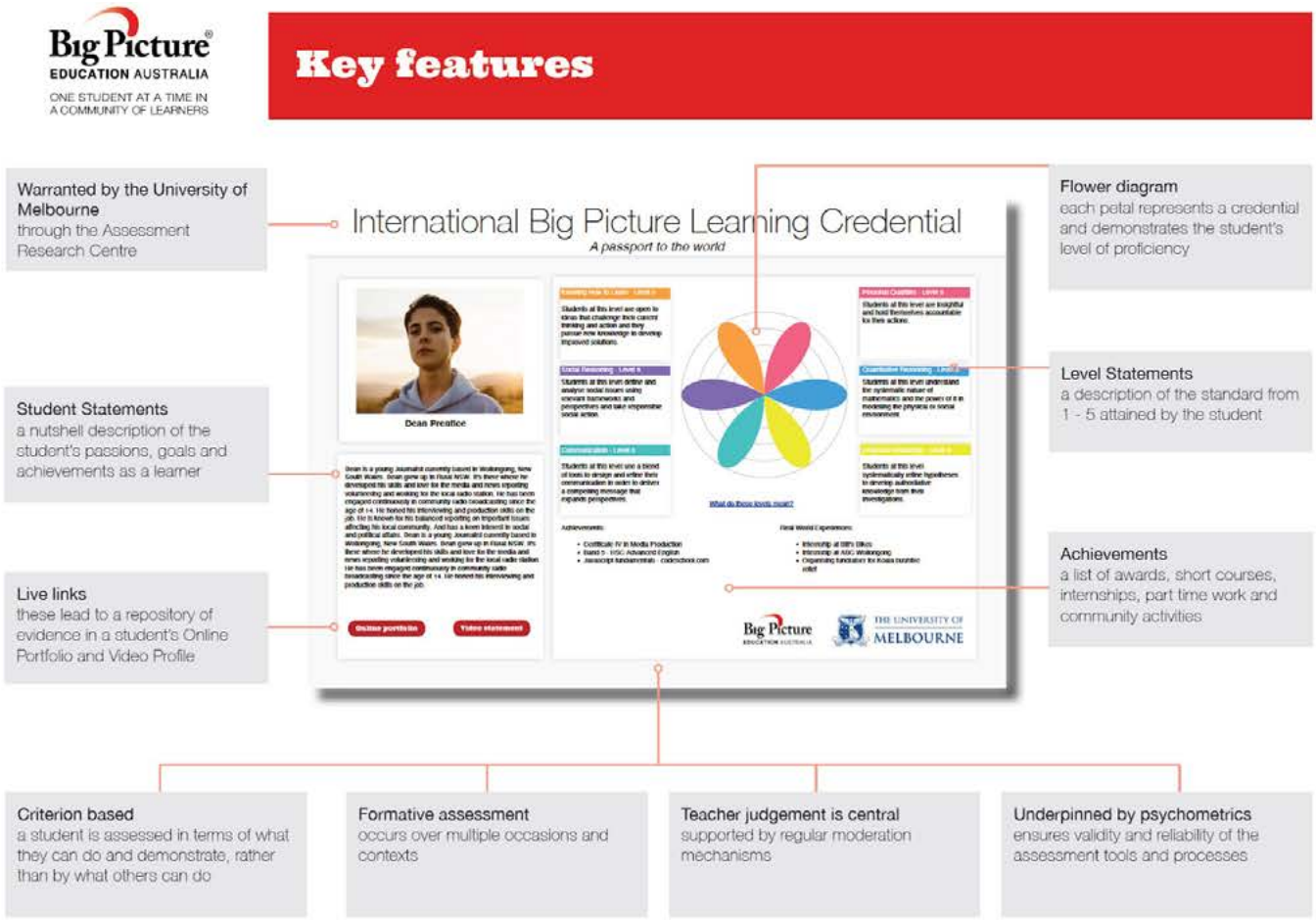



[43] https://globalcitizendiploma.org

## International Big Picture Learning Credential

The International Big Picture Learning Credential[44] is a new, personalised form of assessment which seeks to evaluate and recognise the capabilities, experiences and qualities of secondary school graduates from diverse cultures and backgrounds more comprehensively than exam-based certification systems, see Figure 19.

**Figure 19. Big Picture Education Australia Profile**




Students' achievements are not graded or ranked but judged on demonstrations and observations of performance throughout their schooling against six assessment 'frames': Knowing how to learn, Empirical reasoning, Quantitative reasoning, Social reasoning, Communication and Personal qualities.

Working across the Big Picture example above and with many innovative schools across Australia, New Metrics for Success[45] is leading thinking in understanding how progressive school leaders, nationally and internationally recognised academic researchers and thought-leaders, and system, sector and industry leaders can develop new metrics to assess, credential and measure student, school and system success.

In the next section we will see how Rethinking Assessment is developing research, policy thinking and promising practices to shape thinking about 14-19 education in England.

[44] https://www.bigpicture.org.au/what-international-big-picture-learning-credential

[45] https://education.unimelb.edu.au/melbourne-assessment/new-metrics

# 5. A baccalaureate for England?

> The Baccalaureate model would allow students to accumulate credits over time and build towards their overall qualification. The commission proposes that this new qualification should also be supported by a Digital Learner Profile, a personal online portfolio for every student. It would include academic qualifications alongside a record of other achievements: video footage of a student playing a musical instrument, photographs of projects they have worked on or details of expeditions, volunteering and work experience. A prototype of the digital profile already exists.
>
> Times Education Commission (2022, p.41)

There is considerable impetus for changing the curriculum, pedagogy and assessment within 14-19 education, with a strong interest in developing some kind of baccalaureate. There is also interest in developing a digital learner profile for all students; in the quotation above, the prototype referred to is the one being developed by Rethinking Assessment[46].

From the snapshots of practices across the world various themes emerge including:

- The need for breadth and depth in 14-19 education
- A frustration that 14-19 education does not engage effectively enough with employers
- A recognition of the importance of the benefits of young people having more influence on content and methods of teaching and assessment
- Growing consensus about the cross-cutting dispositions required in addition to subject knowledge and academic skills, including creative thinking, collaboration and oracy
- Recognition of new literacies such as digital and global competence
- A conscious attempt by educational jurisdictions to frame their curricula as a set of key competences and consider how best these can be embedded and applied in individual subjects and the wider world
- An enhanced interest in the process of learning, in metacognition and meta-learning
- An interest in pro-learning attitudes such as growth mindset
- An increasingly multi-disciplinary and interdisciplinary approach to curriculum design
- A recognition that, while direct instruction is appropriate in many situations, there are many other pedagogies which can bring learning alive and ensure it is more authentic and transferable to the real world
- Renewed interest in projects and project- and problem-based learning, both individual and group
- A need to reinvigorate the breadth of pedagogies used in 14-19, drawing on both vocational and 'academic' experiences
- Increasing dissatisfaction with an over-reliance on paper and pencil tests
- An awareness that there are a number of valid and authentic assessment methods which could form part of a reimagined 14-16 experience
- At a policy and practice level, a sense of urgency to develop a national digital learner profile along with the suite of necessary credentialing processes, including digital badges and inter-operability with non-formal awarding bodies.

[46] https://rethinkingassessment.com/learner-profile/

# *Home-grown initiatives*

In the final part of the report we touch on a number of promising initiatives in England which, when considered in the light of global developments, could contribute to a baccalaureate-like solution.

## The Extended Project and Higher Project Qualification

Both the Extended Project Qualification (EPQ) and Higher Project Qualification (HPQ) are designed to encourage students to discover the joys of independent learning, take responsibility for their own study and develop new life and study skills and dispositions. The EPQ is available at key stage 5 and the HPQ at key stage 4. These two project qualifications are unique in the English system in that they are not tied to a specific subject discipline, can be undertaken by a group and employ a more diverse range of assessment methods than elsewhere in the GCSE and A level landscapes.

An extended project is a single piece of work requiring a high degree of planning, preparation, research, and autonomous working. It can take the form of a dissertation or a number of more adventurous forms such as a musical or dramatical composition, an exhibition, a report or an artefact. Students can choose the subject matter of their investigation with very few restrictions. They are assessed against four objectives - their ability to plan and organise, obtain and select information from a range of sources, make decisions and evaluate outcomes. The EPQ was conceived by Mike Tomlinson in 2006 during his review of 16 to 19 education.

The HPQ is very similar to the EPQ, just undertaken at a lower level. It is similarly expansive in scope and assessed by teachers.

There are many similar project qualifications like this across the world[47].

## Three school examples

Three English secondary schools, two state and one in the independent sector, offer different ways of framing the 14-19 experience and some pointers for other schools to consider.

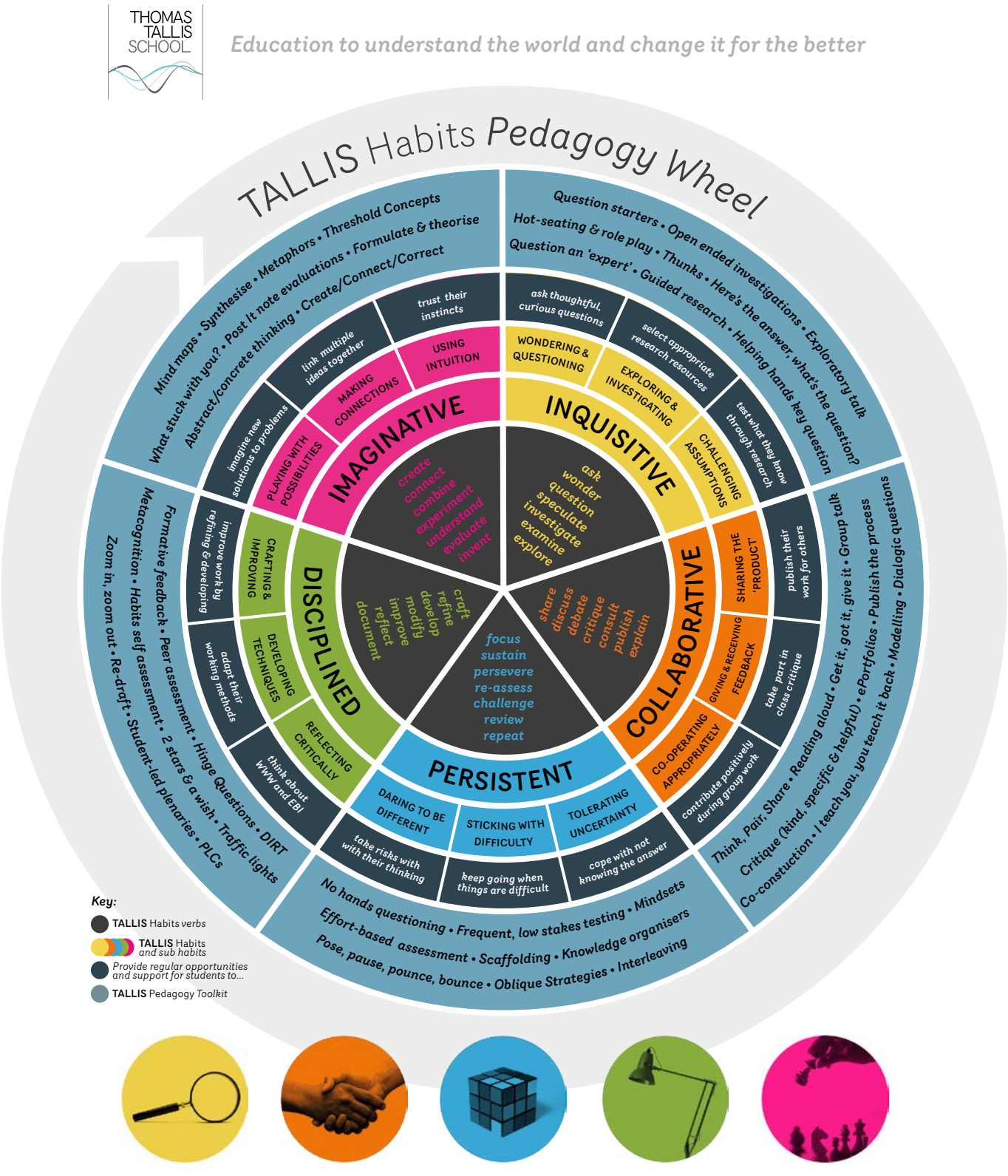
Thomas Tallis School in South London uses the model of creative thinking developed by the Centre for Real-World Learning (CRL) at the University of Winchester (Lucas, Claxton and Spencer, 2-13) to frame all it does:

> The three cornerstones of our approach to teaching and learning at Tallis are: Threshold Concepts, Powerful Knowledge and Habits of Mind. The Wheel is intended to provide colleagues with an aide memoire for implementing Habits-related strategies in the classroom. It will feature on the cover of staff planners and be displayed as a poster in curriculum work areas. The wheel is divided into segments, building out from the centre, and beginning with the types of learning (verbs) explicitly supported by each of the Habits.

Figure 20 shows how a secondary curriculum can be framed by key creative habits and integrated into every subject of the curriculum.

[47] For example - https://www.cambridgeinternational.org/programmes-and-qualifications/cambridge-advanced/cambridge-ipq/; https://www.oxfordaqa.com/qualifications/international-epq-2/; https://educationstandards.nsw.edu.au/wps/portal/nesa/11-12/stage-6-learning-areas/hsie/society-culture/personal-interest-project. https://education.alberta.ca/special-projects/programs-of-study/

**Figure 20. CRL's model developed into the Thomas Tallis Habits Wheel[48]**




The **TALLIS** Habits are based on Lucas, Spencer, and Claxton (2013) *Progression in Student Creativity in School* OECD Publishing.

[48] Rooty Hill High School in Sydney, Australia has adopted a very similar version to the Tallis model

Thomas Tallis generously puts many of its materials online[49] and, along with the international foundation Creativity, Culture and Education[50], has inspired schools in England, Chile, Romania, Thailand and Australia to make similar changes.

In England the XP Trust[51] has combined some of the EL thinking we met earlier with that derived from High Tech High to produce its own unique blend and offer a very different experience at 14-16:

> At XP we deliver our curriculum predominantly through cross disciplinary learning expeditions. These are standards based projects that are specifically designed to make connections between, and across, subjects to encourage deep and purposeful learning experiences for our young people. These 'expeditions' are tightly structured through careful mapping of standards, skills and content and designed by teachers to ensure that all students:
>
> - produce beautiful work and through this are agents for positively improving themselves, their community and the wider world;
> - grow their characters in readiness for the challenges they will encounter in the world;
> - and make better than expected academic progress to allow them to access next steps in their learning.
>
> In summary, we call this our three dimensional curriculum.[52]

XP Doncaster was featured in the Times Education Commission (2022).

Bedales is an independent school near Petersfield. Some while ago the school decided that GCSEs were too rigid and that by relying on them they would be narrowing their students' educational horizons.

Today their students study five I/GCSEs (English Language, Maths, Science and a foreign language) and then can choose up to five of the 14 Bedales Assessed Courses (BACs). The 14 BACs are currently:

- Ancient Civilisations
- Art
- Dance
- Design - Product and Fashion
- Digital Game Design
- English Literature
- Geography
- Global Awareness
- History
- Music
- Outdoor Work
- Philosophy, Religion & Ethics
- Sports Science
- Theatre.

[49] https://www.thomastallisschool.com/tallis-pedagogy-wheel-guide.html

[50] https://www.creativityculturereducation.org/

[51] https://xptrust.org/

[52] https://xptrust.org/our-vision/

BACs are two-year courses with continuous assessment as well as a final exam. There is more reliance on collaboration, research, creative thought and problem solving, offering a natural progression to A Level study. Teachers can shape the syllabus according to current events or their students' interests and go beyond the narrow confines of the GCSE syllabus. The courses are externally moderated and recognised and respected by UCAS, universities and employers. Bedales is one of a number of schools that are part of the school directed courses consortium facilitated by Rethinking Assessment.

Thomas Tallis, XP and Bedales are just three examples from many; a reminder that despite the constraints of the EBacc, school and college leaders remain passionately determined to let 14-19 education become more expansive, more fit for purpose.

## SkillsBuilder

Skills Builder Partnership is a global movement of employers and educators. It began in 2009 in England and in 2023 has a presence in ten countries across the world. In 2023 it  supported more than 2.3 million individuals to build their essential skills.

SkillsBuilder provides a ready-made framework for schools and colleges as they consider 14-19, one that is independent of subject disciplines or vocational areas. It can also be used by students at key stage 3 and by adults once they have left school.

The SkillsBuilder framework, Figure 21, is a set of 8 competences or dispositions, each of which is broken down into 15 levels.

**Figure 21. The SkillsBuilder Framework**

## National Baccalaureate Trust

The National Baccalaureate Trust (NBT) has been advocating some kind of a baccalaureate as a solution for 14-19 education in England since 2016. After a consultation in 2021 it has formally proposed A National Baccalaureate for England (2022).

A National Baccalaureate for England (NBfE) should be introduced for all learners at 18. Ultimately, this should replace existing stand-alone qualifications to create one overarching qualification comprising a range of components within a common 14-18 framework. The NBfE should be compatible with existing institutions and therefore will need to be deliverable in two parts. Part 1: 14-16 and Part 2: 16-18 with related transfer arrangements and secure passporting of achievements. (The National Baccalaureate Trust, 2022, p.7)

The Baccalaureate will consist of two types of components:

1. **Core Learning including English and Maths**

Learners will select a combination of elective subject units broadly equivalent to GCSEs, A levels, T-Levels and other technical qualifications. The NBT suggests that the curriculum volume of existing qualifications is reduced allowing students to explore a wider range of subjects and personal development units and to keep the scale of the examined components in proportion.

Significantly, these units may originate with existing qualifications but they will not now serve as stand alone qualifications but will be Baccalaureate Units that contribute to the one overall award. We propose that students should continue to study Maths and English to 18, either as standalone units or integrated into other units. There is scope to break existing courses such as GCSE Maths into more flexible or more specialised one-year courses. There is also scope to waive the requirement to continue with Maths and English in Part Two if a minimum score is secured in Part One.

2. **Personal Development including an Independent Extended Project.**

This should include:

- An Independent Extended Project
- A minimum of 10 Credits in each of Physical/Sport/Outdoor Education, Creative/Arts, Community Service, Work Experience and Leadership/Mentoring.

Elements of the Baccalaureate will need to be given a credit weighting indicating the volume of the curriculum and enabling students to pursue multiple different pathways of broadly equivalent value. A minimum number of credits will be needed to complete the Baccalaureate.

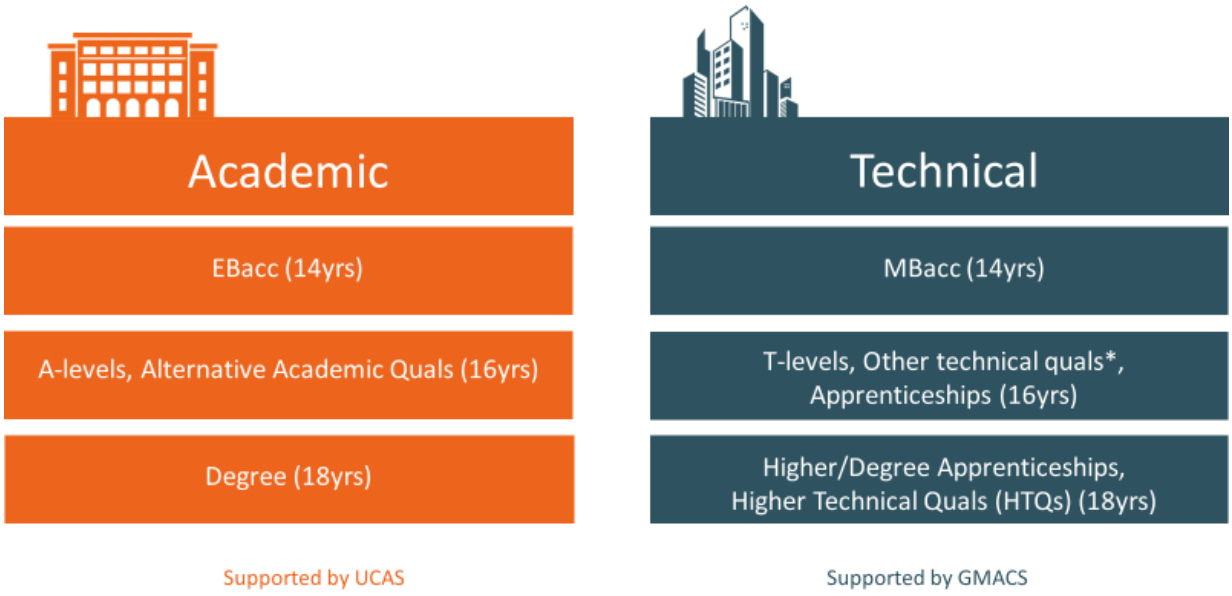
It is envisaged that a digital transcript will capture the details of each learner's Baccalaureate Programme.

## Greater Manchester Bacc or MBacc

The MBacc[53] is a recent attempt (2023) by the Mayor of Greater Manchester to provide an alternative technical route to the EBacc.

[53] https://greatermanchester-ca.gov.uk/media/7867/toward-1.pdf

**Figure 22 – The MBacc**




Just an idea at the moment, the MBacc is distinctive because of the way it specifically trying to make close links to seven employment routes of particular relevance to Manchester and make provision for alternative pathways at 16. The seven sectors are:

- Digital & Tech
- Engineering & Manufacturing
- Financial & Professional
- Creative, Culture & Sport
- Construction & Green Economy
- Public Services: Education & Early Years
- Public Services: Health & Social Care.

## The Baker Dearing Educational Trust

The Baker Dearing Educational Trust has recently made a proposal for a 'UTC Sleeve', a separate academic and technical and/or creative pathway within a mainstream school which incorporates the best of the employer-led UTC approaches (Baker Dearing Educational Trust, 2023). The UTC Sleeve idea recognises that, while it may not be possible to create a UTC in every locality, it is possible significantly to broaden 14-19 options within secondary schools and, potentially, across multi-academy trusts. A number of large trusts, seeing the benefit of the UTC approach in improving student engagement, attendance, and outcomes for certain pupil cohorts, want to introduce the UTC Sleeve into at least one of their secondary schools.

## Pearson

In its recent report exploring the future of qualifications and assessment in the 14-19 education system by examinations body Pearson (2022) there are seven recommendations:

1. Make GCSEs work better for all learners. They are versatile and valued qualifications, but there is room for innovation.
2. Set out a coherent curriculum framework. One linking expected outcomes to the 'learning journey' of students.
3. Shift wholescale curriculum and qualification reform to a model of continuous, evidence-based improvement.
4. Create greater diversity and representation in curriculum that reflects young people's lives, to better engage them in learning.
5. Assess the right skills in the right way, enabling learners to highlight their strengths and successes.
6. Provide more incentives for employers to engage with educators and strengthen teachers' capacity to bring work themes into the classroom. Careers should inspire young people.
7. Accelerate the digital transformation programme, bringing all parts of the system together to realise the opportunities that technology can bring to the education experience. (Pearson, 2022, p.6)

While there is some understandable self-interest in recommendation 1, the other six very much go with the grain of the international trends already identified.

## Independent Assessment Commission

The Independent Assessment Commission (Hayward, 2022) made ten specific recommendations for English education. These are listed below and are all self-explanatory:

1. Recognise every student's achievements. Create a more equitable and reliable assessment system that optimises the potential and protects the health and wellbeing of all England's young people.
2. Use the broad consensus for change that exists to initiate a national conversation on education with a particular focus on equitable, reliable assessment. Use the vision and principles in this report to stimulate that conversation.
3. Design learning experiences and qualifications that encourage students to become critical, inquisitive, creative, autonomous and problem-solving learners, that better support their progression into employment, further and higher education and inspire life-long and interdisciplinary learning.
4. Identify reliable, alternative, blended approaches to assessment that rigorously gather evidence of student achievement and competence. End high-stakes examinations as the only mode of assessing student achievement. Alternative approaches should be developed and trialled with schools to ensure that any new approach takes teacher capacity into consideration.
5. Deploy existing and emergent technologies to support high quality student experiences in assessment and qualifications.
6. Plan coherent pathways for all of England's young people between school, college, university and employment that include a coherent 14-19 assessment and qualification experience. GCSEs in their present form, where the qualification is based solely on high stakes examinations, need to change fundamentally.
7. Focus on qualifications as outcomes. Assessment should not be based around a fixed age of 16. Students should have opportunities to demonstrate achievements when ready throughout education 14-19.
8. Design an integrated qualifications system that offers every student opportunities to include 'academic' and 'vocational' elements seamlessly alongside accreditation for skill development, extended interdisciplinary study and community contribution.

9. Build a system of accountability that uses evidence to inform improvement and ends judgemental categorisation of schools.
10. Recognise that successful, sustainable change requires genuine stakeholder engagement including all the communities which have been part of this commission. (Hayward, 2022, p.61).

## Times Education Commission

The Times Education Commission was set up in 2021 to examine Britain's whole education system and consider its future in the light of the Covid-19 crisis, declining social mobility, new technology and the changing nature of work. Chaired by Rachel Sylvester, The Commission offers a twelve point plan (The Times, 2022) to realise its vision of which recommendations (1), (2), (3) and (7) are particularly relevant to a discussion of 14-19 education:

- A British Baccalaureate, offering broader academic and vocational qualifications at 18, with parity in funding per student in both routes, and a slimmed-down set of exams at 16 to bring out the best in every child.
- An "electives premium" for all schools to be spent on activities including drama, music, dance and sport and a National Citizen Service experience for every student, with volunteering and outdoor pursuits expeditions to ensure that the co-curricular activities enjoyed by the most advantaged become available to all.
- A new cadre of Career Academies - elite technical and vocational sixth forms with close links to industry - mirroring the academic sixth forms that are being established and a new focus on creativity and entrepreneurialism in education to unleash the economic potential of Britain.
- Wellbeing should be at the heart of education, with a counsellor in every school and an annual wellbeing survey of students to encourage schools to actively build resilience rather than just support students once problems have arisen.

Along the way there are a number of pertinent observations, for example, on an issue which has bedevilled curriculum design:

> The commission sees the divide between knowledge and skills as a false dichotomy. Of course children need to acquire the building blocks of knowledge, which will give them the mental framework to analyse and understand the world around them. But they should also be given the chance to develop the practical, social and emotional tools that will allow them to thrive as they go out into the workplace. (The Times Education Commission, 2022, p.26)

In terms of the current focus on EBacc the Commission is clear that there should be fewer compulsory subjects and not all of them should be assessed by pencil and paper examinations:

> At 16, students would take a slimmed-down set of exams in five core subjects, with continuous assessment as well as online tests contributing to their grade. (ibid., p.39)

And of course, The Commission recommended a digital learner profile as the means of capturing the full range of students' strengths by the time they finish their time in statutory education, the quotation which begins this section.

## Rethinking Assessment

For the last three years Rethinking Assessment (RA) has been leading a number of initiatives designed to build a more expansive 14-19 education system[54]. These include:

- Implementing a small-scale intervention study to develop ways of evidencing Creative Thinking in key stages 2 and 3 across the subjects of English, science, history, art & design and design & technology in partnership with the Australian Council for Education Research UK[55]. Working with 20 schools this involves understanding how to embed creative thinking in core subjects across KS2 and KS3, developing progression rubrics, and developing assessment methods and curriculum designs to support the teaching and assessment of creative thinking.
- Developing a better understanding of interdisciplinary learning and assessment in schools in partnership with the London Interdisciplinary School[56] and Bohunt Education Trust[57] to understand more about how best to design interdisciplinary schemes of work and designing a new credential for interdisciplinary learning at key stage 4.
- Developing a Primary Extended Project Award with the Centre for Education & Youth[58], which aims to create a rigorous, flexible and scalable assessment instrument for ten and eleven year-olds, that any primary school could use to support the development and recognition of a wide set of learning dispositions which extend beyond what the national curriculum and SATs currently value.
- Leading the School Directed Courses Consortium (SDCC). Led by King Alfred School, the SDCC is a peer support network of state and independent schools seeking to offer alternative curriculum pathways to the usual suite of 9+ GCSEs. It consists of those schools who are already offering alternative courses (Bedales Assessed Courses, St Paul's School Directed Courses, for example) and others who are actively considering this.
- Running three pilot initiatives exploring the design and implementation of digital learner profiles, acting as a catalyst to rethinking 14-19 curricula.
- Facilitating a Future Baccalaureate working group, a collaboration between RA and the Edge Foundation, bringing together leading voices and organisations looking at the development of a future qualification system for England. This report is contributing to the thinking of the group.
- Contributing to The All Party Parliamentary Group for Schools, Learning and Assessment, co-chaired by Flick Drummond MP and Emma Hardy MP. The APPG is enabling parliamentarians to hear from experts about the effects assessment, particularly exam-only assessment, have on the curriculum, student/teacher wellbeing or any other aspects of the education system. The group will produce a report with all of the evidence that has been heard to present to the Secretary of State.

Bringing all of this together is RA's work to develop a digital learner profile for secondary schools, Figure 23.

[54] https://rethinkingassessment.com/developing-solutions/

[55] https://www.acer.org/gb/

[56] https://www.lis.ac.uk/

[57] https://www.bohunttrust.co.uk/

[58] https://cfey.org/

**Figure 23. Rethinking Assessment profile to evidence progress in creative thinking, 3 Cs of Success**


The elements of the RA profile indicate RA's view of what is desirable at 14-19 level. The elements include:

- foundational literacies, both traditional and new
- short courses enabling interdisciplinary and applied study
- dispositions - creative thinking, collaboration and communication
- a personal project, and
- a focus on the student as a learner, on the metacognitive processes that they bring to bear on their study.

The profile would be owned and curated by the student who could use a range of media to evidence their best work and specific achievements. Sometimes this could involve the kinds of experiences which gain UCAS tariff points such as instrumental music exams. But it would also be open to new methods such as digital badging of specific skills and extended experiences.

RA, in partnership with the Comino Foundation[59], is focused on developing a national standard or framework for learner profiles, endorsed by a range of stakeholders and including a number of tech tools, guides and resources for schools to use. Development work using Google Sites is underway with Big Education's Big 10 Network, Herts for Learning and  Doncaster Borough Council.

[59] https://cominofoundation.org.uk/

## Edge Foundation

The Edge Foundation has championed research, policy and practice changes in the area of 14-19 education for a decade. The concept itself that is assumed in this report, that the last part of secondary education can best be considered across 14-19 (rather than 16-19) has been well documented by Ken Spours and colleagues (2018) in research supported by Edge.

Edge has also championed the idea of deeper learning and facilitates the Deeper Learning UK Network[60]. The network aims to develop, share and promote deeper learning practice across the UK. The term deeper learning (see earlier mention of Michael Fullan's deep learning) has emerged internationally to describe a variety of practices that reflect a broader purpose for the education system, one oriented to ensuring each young person is empowered to flourish and be the best version of themselves - an education of the head, heart and hands. Deeper Learning UK is a network of organisations including schools, colleges, Multi Academy Trusts, Universities, College Groups and voluntary sector organisations.

In his wide-ranging review of 14-19 education (2022) Olly Newton lays out a vision for a coherent, unified and holistic approach. He describes the eight strands or actions needed to bring about the vision of the Edge Foundation:

1. Create a broad, balanced and relevant 14-19 curriculum
2. Make the curriculum relevant by putting it into context
3. Remove the cliff edge at 16, focusing on stage rather than age
4. Focus apprenticeships on young people joining the labour market
5. Integrate employer engagement throughout
6. Give teachers more support and greater freedom
7. Support more collaboration between institutions
8. Create an accountability system focused on outcomes.

This work builds on earlier analysis by Ken Baker in 2016 which proposed a two stage process of first revising the EBacc and secondly, creating a coherent 14-19 phase of education. The Edge road map dovetails closely with the recommendations of the Independent Assessment Commission and, indeed, with many recent reports.

## *Where next?*

If England wants to learn from trends identified in research, policy and practice across the world, it will need to rethink the way it does 14-19 education to create a broader, deeper experience for students, rethink pedagogies and rethink assessment. Whether the name baccalaureate has become too tarnished by the EBacc needs careful thought. But the direction of travel is surely clear and will need somehow to go beyond our current conceptions of the baccalaureate to make something fit for our time and place.

[60] https://www.edge.co.uk/practice/deeper-learning-uk-network/

## Critical and Creative Thinking learning continuum

| Sub-element | Level 1<br>Typically, by the end of Foundation Year, students: | Level 2<br>Typically, by the end of Year 2, students: | Level 3<br>Typically, by the end of Year 4, students: | Level 4<br>Typically, by the end of Year 6, students: | Level 5<br>Typically, by the end of Year 8, students: | Level 6<br>Typically, by the end of Year 10, students: |
|---|---|---|---|---|---|---|
| **Inquiring – identifying, exploring and organising information and ideas element** | | | | | | |
| **Pose questions** | pose factual and exploratory questions based on personal interests and experiences | pose questions to identify and clarify issues, and compare information in their world | pose questions to expand their knowledge about the world | pose questions to clarify and interpret information and probe for causes and consequences | pose questions to probe assumptions and investigate complex issues | pose questions to critically analyse complex issues and abstract ideas |
| **Identify and clarify information and ideas** | identify and describe familiar information and ideas during a discussion or investigation | identify and explore information and ideas from source materials | identify main ideas and select and clarify information from a range of sources | identify and clarify relevant information and prioritise ideas | clarify information and ideas from texts or images when exploring challenging issues | clarify complex information and ideas drawn from a range of sources |
| **Organise and process information** | gather similar information or depictions from given sources | organise information based on similar or relevant ideas from several sources | collect, compare and categorise facts and opinions found in a widening range of sources | analyse, condense and combine relevant information from multiple sources | critically analyse information and evidence according to criteria such as validity and relevance | critically analyse independently sourced information to determine bias and reliability |
| **Generating ideas, possibilities and actions element** | | | | | | |
| **Imagine possibilities and connect ideas** | use imagination to view or create things in new ways and connect two things that seem different | build on what they know to create ideas and possibilities in ways that are new to them | expand on known ideas to create new and imaginative combinations | combine ideas in a variety of ways and from a range of sources to create new possibilities | draw parallels between known and new ideas to create new ways of achieving goals | create and connect complex ideas using imagery, analogies and symbolism |
| **Consider alternatives** | suggest alternative and creative ways to approach a given situation or task | identify and compare creative ideas to think broadly about a given situation or problem | explore situations using creative thinking strategies to propose a range of alternatives | identify situations where current approaches do not work, challenge existing ideas and generate alternative solutions | generate alternatives and innovative solutions, and adapt ideas, including when information is limited or conflicting | speculate on creative options to modify ideas when circumstances change |
| **Seek solutions and put ideas into action** | predict what might happen in a given situation and when putting ideas into action | investigate options and predict possible outcomes when putting ideas into action | experiment with a range of options when seeking solutions and putting ideas into action | assess and test options to identify the most effective solution and to put ideas into action | predict possibilities, and identify and test consequences when seeking solutions and putting ideas into action | assess risks and explain contingencies, taking account of a range of perspectives, when seeking solutions and putting complex ideas into action |

## Critical and Creative Thinking learning continuum

| Sub-element | Level 1<br>Typically, by the end of Foundation Year, students: | Level 2<br>Typically, by the end of Year 2, students: | Level 3<br>Typically, by the end of Year 4, students: | Level 4<br>Typically, by the end of Year 6, students: | Level 5<br>Typically, by the end of Year 8, students: | Level 6<br>Typically, by the end of Year 10, students: |
|---|---|---|---|---|---|---|
| **Reflecting on thinking and processes element** | | | | | | |
| **Think about thinking (metacognition)** | describe what they are thinking and give reasons why | describe the thinking strategies used in given situations and tasks | reflect on, explain and check the processes used to come to conclusions | reflect on assumptions made, consider reasonable criticism and adjust their thinking if necessary | assess assumptions in their thinking and invite alternative opinions | give reasons to support their thinking, and address opposing viewpoints and possible weaknesses in their own positions |
| **Reflect on processes** | identify the main elements of the steps in a thinking process | outline the details and sequence in a whole task and separate it into workable parts | identify pertinent information in an investigation and separate into smaller parts or ideas | identify and justify the thinking behind choices they have made | evaluate and justify the reasons behind choosing a particular problem-solving strategy | balance rational and irrational components of a complex or ambiguous problem to evaluate evidence |
| **Transfer knowledge into new contexts** | connect information from one setting to another | use information from a previous experience to inform a new idea | transfer and apply information in one setting to enrich another | apply knowledge gained from one context to another unrelated context and identify new meaning | justify reasons for decisions when transferring information to similar and different contexts | identify, plan and justify transference of knowledge to new contexts |
| **Analysing, synthesising and evaluating reasoning and procedures element** | | | | | | |
| **Apply logic and reasoning** | identify the thinking used to solve problems in given situations | identify reasoning used in choices or actions in specific situations | identify and apply appropriate reasoning and thinking strategies for particular outcomes | assess whether there is adequate reasoning and evidence to justify a claim, conclusion or outcome | identify gaps in reasoning and missing elements in information | analyse reasoning used in finding and applying solutions, and in choice of resources |
| **Draw conclusions and design a course of action** | share their thinking about possible courses of action | identify alternative courses of action or possible conclusions when presented with new information | draw on prior knowledge and use evidence when choosing a course of action or drawing a conclusion | scrutinise ideas or concepts, test conclusions and modify actions when designing a course of action | differentiate the components of a designed course of action and tolerate ambiguities when drawing conclusions | use logical and abstract thinking to analyse and synthesise complex information to inform a course of action |
| **Evaluate procedures and outcomes** | check whether they are satisfied with the outcome of tasks or actions | evaluate whether they have accomplished what they set out to achieve | explain and justify ideas and outcomes | evaluate the effectiveness of ideas, products, performances, methods and courses of action against given criteria | explain intentions and justify ideas, methods and courses of action, and account for expected and unexpected outcomes against criteria they have identified | evaluate the effectiveness of ideas, products and performances and implement courses of action to achieve desired outcomes against criteria they have identified |

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## About the Edge Foundation

The world is changing fast and education needs to keep up. Edge is an independent, politically impartial education foundation. We want education to be relevant to the twenty-first century. We gather evidence through research and real world projects and partnerships and use this to lead the debate and influence policy and practice.

Edge believes all young people need to be equipped with the skills that today's global, digital economy demands, through a broad and balanced curriculum, high quality training, engaging real world learning and rich relationships between education and employers.

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## About Rethinking Assessment

Rethinking Assessment is a coalition of school leaders from across the state and independent sectors, joining leading researchers, key policy-makers, employers and higher education representatives in order to broaden and modernise assessment to fully and fairly prepare young people for a dynamic world. Rethinking Assessment is making the argument for a fairer, broader, strengths-based and more equitable system. Rethinking Assessment is currently prototyping digital learner profiles in schools, while developing evidence for the most effective ways of evidencing and showcasing the full range of pupils' strengths.

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