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Generic skills in the 14-19 curriculum: an international review

Summary report

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This work has been financed by the *Charitable Foundation for Education Development* (CFED), with initiation and management of the study delegated to the **Centre for Education Systems** (CES) (formerly *edpol.net*). CES commissions and synthesises research comparing education systems across the world, and this early study is a prototype for a wider programme of international comparative reviews.

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Sheffield Institute of Education is one of the UK's largest providers of initial teacher education. We aim to improve outcomes for children, young people and enhance the experience of educational professionals, with a substantial portfolio of research and development centred on evaluating, understanding and delivering practitioner professional learning.

The **Centre for Education Systems** (CES), commissioned this pilot review* to assess the feasibility of working with recognised academic specialists and to create a replicable process for the wider CES programme. CES is committed to reviewing all areas of education system policy making, providing descriptions and meta-analysis for all UK Home Nations, plus ten other jurisdictions around the world. As our insight and comparative analysis builds, we will provide a deeper understanding of individual policy instruments; alternative approaches for each; an increased understanding of how policy instruments interact and improve decision makers' understanding of system architecture and investment priorities.

* formerly as *edpol.net*

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Introduction

The importance of knowledge has been front and centre in education policy in England for the last 10 years. The National Curriculum for learners up to age 16, is intended to provide them:

with an introduction to the essential knowledge, they need to be educated citizens. It introduces pupils to the best that has been thought and said and helps engender an appreciation of human creativity and achievement.

Absent is reference, for example, to skills that might be needed for citizenship, to think or speak, or to be creative and achieve. The focus on knowledge is deliberate. Government ministers argue that this is a corrective to the dangers of a focus on skills at the start of the century (Gibb, 2017).

Recently, the importance of skills has been put back on the educational agenda, with various stakeholders making a case for greater attention to skills, including generic skills in education (e.g., Council of Skills Advisors, 2023).

Against this background, this report focuses specifically on generic skills. A common example of a generic skill included in curricula is communication. In some jurisdictions, a different form of generic 'skill' is linked more to dispositions and character attributes. Generic skills are often referred to in curricula as 21st century skills or competencies. To potentially inform policy in England, we undertook a comparative review of generic skills in England and nine other jurisdictions for comparison to examine the place of generic skills in the 14-19 curriculum.

A key distinction in skills curricula in the review and in many jurisdictions is the distinction between vocational education and vocational subjects, and academic education and academic subjects. This distinction is found in all education systems considered in the review, although in different ways. Academic and vocational skills encompass both school subjects or disciplines (mathematics, English, science, etc.) and vocational areas (e.g., plumbing, hairdressing, bricklaying). Considering both school subjects and vocational skills allows for a consideration of all aspects of 14-19 education.

The jurisdictions were selected to provide a spread across the world, a diversity of approaches in terms of provision for generic skills, and sufficient literature available in English. Key features and reasons for inclusion are provided in **Table 1**. The ten case studies are available as separate, related reports. This summary report is based on a cross case comparison of these studies. It sets out a summary of the characterisations and provision of generic skills in each jurisdiction, considers the factors that influence the provision of generic skills, and concludes with a reflection on the implications for policy development in England.

Table 1: Jurisdictions and key features

England	Aim of the review is to inform policy and policy research on skills in England
China	Successful in international comparative tests. Curriculum combines a focus on competencies with broader character competencies.
Estonia	Successful on international comparison tests. Has a similar curriculum structure to England.
Finland	Finland was rated world leader in generic skills education (Worldwide Educating for the Future Index 2019).
Germany	Strong labour market outcomes are largely attributed to Germany's VET system. Strong collaboration between government, educators and enterprise is enshrined in law and well-funded. The 'dual system' is internationally renowned.
Netherlands	The Netherlands have a track record of greater success in international comparative tests than England. They are undertaking a current curriculum reform to further embed generic skills.
New Zealand	The framing of generic skills as employability in New Zealand has similarities with the current English context where skills are mainly viewed as vocational. However, in New Zealand generic skills are also incorporated into academic subjects.
Ontario (Canada)	Ontario, a province of Canada, is successful in international comparative tests and has good employment outcomes for school leavers. It has demographic similarities to England, and English is one of its two official languages (with French). Ontario's development of skills policy has involved consultation with a wide range of stakeholders.
Scotland	Scotland has included generic skills in the curriculum for 20+ years and has many systemic and cultural similarities to England.
Singapore	Successful in international comparative tests. Colonial legacy means that education phases with assessment at 16 is similar to England.

The review was informed by a framework setting out how skills are considered within the curriculum and influences on this. This is presented in **Appendix 1**. Sources were identified, retrieved, and analysed leading to a case study for each education system

We present an analysis of all 10 jurisdictions in relation to the following key dimensions and questions, as well as identifying the descriptions of the skills themselves (see **Table 2**).

Each of these areas are looked at in turn. Following this we consider how three influencing factors shape generic skills policy. These factors are:

- Economic and social educational context
- Education workforce and professional status
- Policy formation and implementation mechanisms

Table 2: Dimensions and questions

Generic skills description	How are generic skills described? What is the nomenclature?
Generic skills in the academic and vocational curriculum	What is the relationship between generic skills and academic and vocational subjects? Is skills education integrated into subjects or taught as a supplementary separate subject?
Skills teaching and learning approaches	How are generic skills taught? What is the role of experiential learning and project work?
Generic skills assessment	Are generic skills assessed? If so, how?
Teacher autonomy	How much autonomy do teachers have in what and how generic skills are taught?

Generic skills: description and content

Generic skills are often referred to as, or included in, 21st century skills or as competencies in international curricula and research, although definitions of these vary (Joyne. Et al., 2019).

There is wide ranging support for these kinds of generic skills. International businesses and particularly technology industries were important in the early development of the educational movement for 21st Century skills and the OECD advocate for 21st Century skills in the curriculum (Scott, 2015).

The first of these is the nomenclature for 'generic skills' as a phrase in each jurisdiction and the content of the skills. Table 3 (overleaf) sets out the definition in each jurisdiction. England has no formal description of generic skills, so the definition used is from study programmes, which are only available to young people aged 16-19 undertaking vocational qualifications, typically in a Further Education College.

Table 3 highlights there are commonalities across jurisdictions of many generic skills. Table 4, which follows Table 3, groups together skills using categories informed by comparative analysis of 21st Century skills' frameworks (Voogt and Roblin 2012). This earlier analysis of frameworks identified the following categories: ICT- related literacy, collaboration, communication, social and cultural skills, with a majority of frameworks also including creativity, critical thinking and problem solving

In the 10 jurisdictions of our study, three include reference to entrepreneurship. Three jurisdictions also include a metacognitive skills such as, or similar to, learning to learn.

The appearance of both of these type of skills not identified in the earlier analysis may be due to our particular sample or may be a result of changing curriculum interest. Similarly, reference to 'global' in relation to citizenship may be specific to this group of countries or an indicator of current interests. Across the 10 jurisdictions in our study, often personal qualities are included that either explicitly point to character and ethical development, In addition, we have included citizenship as separate category.

Depending on cultural traditions, citizenship may be described as civics and so a social and cultural skills or alternatively an aspect of moral education, and so cultivation of personal qualities Regardless of the terms used, it is a common dimension in generic skills, although it is absent in England. However, in England, citizenship is incorporated into a curriculum subject in school: Personal, Social and Health Education. Teamwork is variously described as relating to others, being effective contributors, and collaborating with others. This also appears on the majority of lists of generic skills in these jurisdictions.

Table 3: Descriptions of generic skills in 10 jurisdictions

England *No explicit name for generic skills*	▶ Character ▶ Broader skills ▶ Attitudes ▶ Confidence ▶ Support progression
China *Competencies & Suzhi education*	▶ Competencies communication, teamwork, creativity ▶ Suzhi education moral, intellectual, physical, aesthetic, and personality
Estonia *Competencies*	▶ Social ▶ Self-management ▶ Learning to learn ▶ Communication ▶ Mathematics ▶ Entrepreneurship
Finland *Transversal competencies*	▶ Community spirit ▶ Collaborative skills ▶ The application of data ▶ Creative and critical thinking ▶ Future global civic skills and the creation of a sustainable future
Germany *Competencies*	▶ Critical thinking, creativity and problem-solving ▶ Communication and negotiation ▶ Presentation skills ▶ IT skills ▶ Conflict, time, and project management skills ▶ Work ethic, initiative, and independence ▶ Team spirit

Netherlands *21st Century skills and key competencies*	▶ Communication in the mother tongue and foreign languages ▶ Digital competence ▶ Learning to learn ▶ Interpersonal, intercultural, social, and civic competencies ▶ Entrepreneurship ▶ Cultural expression
New Zealand *Key competencies*	▶ Thinking ▶ Using language, symbols, and texts ▶ Managing self ▶ Relating to others ▶ Participating and contributing
Ontario *Transferable skills*	▶ Critical thinking and problem solving ▶ Innovation, creativity, and entrepreneurship ▶ Self-directed learning ▶ Collaboration ▶ Communication ▶ Global citizenship and sustainability ▶ Digital literacy
Scotland *Capacities*	▶ Successful learners ▶ Confident individuals ▶ Responsible citizens ▶ Effective contributors
Singapore *21st Century Competencies; Critical Core Skills in 16+ vocational education*	▶ Communication, collaboration, and information Skills ▶ Critical and Inventive Thinking ▶ Civic Literacy, Global Awareness and Cross-culture Skills

Table 4: Type of generic skills mapped to jurisdictions, ranked by frequency

Communication	*7*	China, Estonia, Germany, Netherlands, New Zealand, Ontario, Singapore
Collaboration	*6*	China, Finland, Germany, New Zealand, Ontario, Singapore
Personal qualities	*6*	England, China, Estonia, Germany, New Zealand, Scotland
ICT-related	*5*	Finland (application of data), Germany, Netherlands, Ontario, Singapore
Creativity	*5*	China, Finland, Germany, Ontario, Singapore
Critical thinking	*5*	Finland, Germany, New Zealand, Ontario, Singapore
Citizenship	*5*	Finland, Netherlands, Ontario, Scotland, Singapore
Metacognitive skills	*4*	Estonia, Netherlands, Ontario, Scotland
Social and cultural skills	*3*	Estonia, Netherlands, Singapore
Entrepreneurship	*3*	Estonia, Netherlands, Ontario
Problem solving	*2*	Germany, Ontario
Literacy	*2*	Netherlands, New Zealand
Moral and ethical education	*2*	China, Finland ('community spirit')

In Table 4 the types of generic skills are organised by frequency of jurisdictions that include the types. However, caution is needed given the set of jurisdictions is a purposeful sample and may not be representative of other jurisdictions.

A key issue is the relationship between knowledge and skills in the curriculum, so defining what is a subject skill rather than knowledge is not always possible. For many jurisdictions, mathematical skills, and native languages, as well as, in some cases, English for non-native speakers, were considered generic skills. Most jurisdictions highlighted communication as a fundamental generic skill, and in reality, this was frequently at least partially embedded within native language teaching.

Generic skills in the academic and vocational curriculum

We now consider the place of generic skills in the academic and vocational curriculum. To recap, academic subjects are those that are traditional school subjects in contrast to vocational subjects focused on learning more directly related to future employment. Across the 10 jurisdictions, there are two aspects to how generic skills are included in the academic and vocational curricula:

- The relative degree of inclusion in either the academic or vocational curriculum or both
- The integration and embedding of generic skills into the main curriculum with or without a specific generic skills standalone subject

We compare the jurisdictions in relation to each of these issues.

Inclusion in the academic and vocational curriculum

Most of the jurisdictions reviewed had a clear division between academic and vocational learning at some point during the 14-19 age group, so there would be opportunity to provide generic skills tuition in different ways to learners on academic or vocational courses.

In most jurisdictions, generic skills were compulsory for all learners, but in some, vocational learners received more support in generic skills.

Figure 1: Inclusion in the academic and vocational curriculum

Common generic skills curriculum	More in vocational	More in vocational learning 16-19
China	Germany	England
Estonia		
Finland		
Netherlands		
New Zealand		
Ontario		
Scotland		
Singapore		

Generic skills integration in academic and vocational curricula

For most jurisdictions, generic skills were embedded or integrated within the curriculum in various way or whether they were taught to young people as a specific standalone supplementary subject.

In England, generic skills are only embedded in vocational subjects. Consequently, generic skills are only embedded for specific groups of learners in 16+ education.

Figure 2: Generic skills integration in academic and vocational curricula

Integrated	Integrated and supplementary activities	Embedded in vocational subjects
China	Singapore	England
Estonia		Germany
Finland		
Netherlands		
New Zealand		
Ontario		
Scotland		

Generic skills teaching and learning approaches

We now consider teaching and learning approaches. This phrase encompasses classroom pedagogy where skills are included in formal teaching but also includes independent project work and extra-curricula activities in some jurisdictions. Table 5 below summarises teaching and learning approaches across the jurisdictions.

Table 5: Generic skills teaching and learning approaches

England	In vocational education, use of practical experiences
China	For academic subjects, extracurricular activities are important to providing opportunities for experiential learning of skills. Vocational subjects have greater opportunities for experiential and project-based learning.
Estonia	Project work in vocational subjects
Finland	Student-centred, experiential, collaborative learning pedagogies including project-based learning.
Germany	In vocational competency based education
Netherlands	Emphasis on practical and participative approaches.
New Zealand	Emphasis on student-centred, inquiry-based learning approaches
Ontario (Canada)	There are specific specialist teachers for transferable skills. Combination of teacher directed and experiential learning including project work.
Scotland	Taught through academic and vocational subjects using approaches used in those subjects
Singapore	Project work, cross-curricula activities. Specialist Critical Core Skills teachers.

Most of the jurisdictions reviewed had a clear division between academic and vocational learning at some point during the 14-19 age group, so there would be opportunity to provide generic skills tuition in different ways to learners on academic or vocational courses. Unsurprisingly, given the integration of generic skills education into the wider academic and vocational curriculum, the approach to generic skills education is similar to the approach to teaching and learning generally found in each education system.

Projects and project-based learning are a key part of vocational learning in all the jurisdictions reviewed. Project work in this context typically means a situation where a young person is given a task or comes up with an appropriate task themselves, is given time and support to tackle the task, either alone or in a team, and is asked to come up with a conclusion. This could be a work-based problem to solve, or it could be a more academic research project, but it would include the young person considering the problem or issue and coming up with an appropriate response. It may or may not be formally assessed.

Vocational learning, by its nature, requires learners to test out specific skills and build on them in a way that is generally more practical than academic learning. Projects were considered part of generic skills teaching and learning for all types of learners. Only 4 of the 10 jurisdictions suggested that projects are seen as less important to academic learning, particularly at the 14–19 stage.

It may be that projects are more difficult to build into academic learning. In Singapore, for example, while a project is compulsory for all learners, our case study highlights that traditional structured teaching methods persist, meaning that any project-based learning is extremely variable in quality and value to learners.

In contrast, the autonomy afforded to teachers in the Netherlands, alongside a student-centred learning approach, means generic skills more generally and the projects within the vocational curriculum in particular are valued and effective.

Generic skills assessment

The third dimension is assessment of generic skills. Notably in no jurisdiction were young people required or able to obtain a specific qualification in generic skills, alongside their other subject-based qualifications.

Figure 3 below summarises whether young people are asked to obtain a specific qualification in generic skills, alongside their other subject-based qualifications.

Figure 3: Inclusion in the academic and vocational curriculum

Not assessed	Assessed as part of a national qualification	Generic skills embedded in other learning outcomes
England	New Zealand	Estonia
China	Ontario	Germany (in the VET curriculum)
Finland		Netherlands (in the VET curriculum)
Scotland		
Singapore		

Professional autonomy and generic skills

The issue of professional autonomy and generic skills is multidimensional involving the interrelationships of:

- general professional autonomy
- where autonomy and decision making are located, for example with the teacher or with a school or school governance organisation
- differences in autonomy in relation to academic and vocational curricula
- specific professional autonomy in relation to generic skills

In many jurisdictions, teachers have some autonomy over how to incorporate generic skills into subjects and vocational areas, although this varied considerably. Autonomy was linked to the professional status of teachers, but also to the kind of curriculum offered.

In Estonia, the Netherlands and Finland, teachers have considerable autonomy to develop curricula and consider how to integrate generics skills.

In Ontario in Canada, in some cases there were specialist teachers for generic skills, meaning there is less expectation that subject and vocational area teachers provide support for generic skills, but also that there is potentially more consistency in the way generic skills are taught.

Influencing factors

Economic, social, and educational context

The economic, social, and educational contexts provide an understanding of how generic skills are valued and an explanation of how they have been developed. This relates to cultural educational traditions, and this influences how generic skills are described. So, for example, in China, education traditions that emphasise character are influential in the inclusion of an approach to some skill development as part of moral education. The 'fit' between the skills curriculum and this economic, social, and educational context is important to the formulation of skills and how they are included (or not) in the curriculum.

For example, in Scotland, with a relatively new devolved administration, the Scottish National Party government created a new 'Curriculum for Excellence. that extended differences with the education systems of other UK nations. Skills are central to the Curriculum for Excellence, and this contrasts with the current curriculum in England, which emphasises knowledge. Similarly, Germany, in the post-war settlement and then reunification, stressed a democratic curriculum where challenging norms were encouraged and preparation for citizenship was central. Relatedly, a variety of skills are valued and are required competencies, including 'soft skills'.

Singapore illustrates the challenge of creating a curriculum that contrasts with the cultural context. Singapore's educational system is relatively rigid, and teachers have been instructing learners in a knowledge-focused way for many years. More recent reforms emphasising project-based learning and generic skills are in tension with system structures and traditions. This means that the projects learners work on and the support they receive are very variable, exemplifying that changing cultures is difficult and takes many years.

Key educational systems and structures

The wider system around the 14-19 curriculum is also crucial. In the majority of jurisdictions, some form of division between academic and vocational learning happens during the 14-19 period of schooling. These divisions work well where there are clear routes in and out of both academic and vocational courses, and the vocational options have an equivalent status to academic options. In many education systems, only vocational learners are offered teaching and learning in generic skills and to undertake projects. In systems where all young people are required to be taught generic skills and undertake projects as part of their education, there also appears to be greater fluidity between academic and vocational courses.

Education workforce and professional status

The professional status of teachers in all parts of provision for 14–19-year-olds influences both how they teach skills, and the level of autonomy they are permitted within the education structures to embed skills in subject learning.

In England, there are notable differences in the qualifications needed for Qualified Teacher Status for teachers in schools, and the recommendation to have Qualified Teacher Learning and Skills status in colleges.

Teacher autonomy does not necessarily follow from the professional status of teachers in England, where schools have significant autonomy to decide on teaching approaches, but the teacher's relative autonomy depends on the school approach. For this in Further Education Colleges, there is also freedom at the college level, but can be more autonomy for individual teachers.

Professional bodies and teacher education policy also play a role. Requirements to participate in professional development vary across professional bodies. Teacher education for schoolteachers and vocational teachers may have some common content whilst also varying given differences in background of the two types of teachers.

In countries like Finland and New Zealand, the high status of teachers and continued support for development, enables inquiry-led learning as teachers are able to use their creativity to best suit the learners they teach.

Policy formation, implementation, and mechanisms

Policy consistency is important to the successful implementation of any policies or practices. In Finland, the consistency of approach for many years makes it easier to predict how education will evolve, allowing teachers to reflect on and iterate their teaching and learning approaches.

Programmes like that in Estonia with a wrap-around support for developing generic skills enables the adding of areas like digital competency without significant policy changes.

In contrast, in England, policy is marked by continual change and uncertainty. For example, much effort went into developing proposals for 14-19 Diploma, but the majority of qualifications were withdrawn shortly before introduction. This type of policy uncertainty and change leads to a cautious approach to new policies like T-Levels amongst those working in 14-19 education.

Table 6 summarises key mechanisms or levers used to implement skills curriculum and encourage adoption within the curriculum. Some of these mechanisms overlap – for example, a qualifications framework may also be part of the statutory prescribed curriculum. Also notable, potential policy mechanisms that are often used to support policy implementation but that appear absent in the 10 case study education systems. In particular, generic skills appear to be outside of other accountability systems. Perhaps because generic skills are not generally explicitly assessed. An exception to this is New Zealand that has a National Certificate of Educational Achievement and various optional certificates. Scotland is considering a Diploma of Achievement that would include assessment of skills.

Table 6: Generic skills implementation mechanisms

Statutory curriculum	*Academic and vocational:* Estonia, Finland, Scotland, New Zealand *Vocational:* England
Qualification or curriculum framework	*Academic and vocational:* Netherlands, Ontario, Singapore, New Zealand *Vocational:* Germany
Guidance and resources	Netherlands, China, Estonia, Singapore
Teacher education	Singapore, Estonia
Vocational routes from or by 14 years	Netherlands, Germany, Singapore, Estonia
Assessment	*Integrated in academic and vocational assessment:* Netherlands, New Zealand *Integrated into vocational assessment:* Germany
Teacher Agency	Finland, New Zealand, Netherlands

Policy implications for England

The comparative review suggests that England is an outlier in the provision of generic skills, particularly in extending skills development across both the academic and vocational curriculum. This includes providing access to a skills curriculum for learners aged 14 years and older who will later go on to access a vocational curriculum. However, despite shifts to a knowledge-based curriculum at secondary schools over the past 13 years, many 14–19 learners are likely to be receiving informal support for generic skills as a result of school or teacher choices about the curriculum and teaching approaches and as part of study programmes for learners aged 16–19 on vocational programmes. The school or teacher choices about the curriculum and teaching approaches are a result of the freedoms permitted to academies and free schools that make up the majority of secondary schools. The differing curriculums and institutions at 16–19 mean learners on vocational programmes at Further Education colleges receive a study programme that includes broader skills, while there is no such requirement for learners on academic programmes at schools. The variation in England is distinct from the other jurisdictions studied, where, in the main, learners on academic and vocational programmes are required to have at least some teaching in generic skills, even if that is encouraged through frameworks rather than the statutory curriculum.

Although England is an outlier in not having an explicit skills curriculum for all learners and for those in secondary education, it is not unique in other ways. There is often a division between the inclusion, teaching, and learning of generic skills in academic and vocational contexts. Generally, vocational learners experience some form of teaching and learning of generic skills, while their academic counterparts in some areas receive less support for developing general skills in favour of teaching high-stakes exams. In some cases, academic programmes of study at the upper secondary level may have limited space to allow for generic skills, while for vocational programmes, there is greater recognition that learners will need generic skills for the workplace sooner than those on academic programmes. So, there may be an assumption that academic learners pick up these generic skills beyond the 14–19 stage of education. Regardless, those following more academic courses may be missing out on support for generic skills before they reach age 19.

International comparison highlights the importance of coherence across the economic, social, and cultural context as well as in the education system. Delivering generic skills in a context where only knowledge-based education is valued can mean that the quality of delivery is variable, and only some learners receive a good grounding in generic skills. However, it also takes long periods of time for the system to change, so a sudden switch from knowledge-based to skills-based is unlikely to be successful in the short term.

This is partly a result of the role of teachers in delivering the curriculum. Most jurisdictions expect teachers to embed or integrate generic skills into the curriculum for learners of both academic and vocational subjects. In places where teachers are highly valued and where they are able to use their creativity to adapt and support learners in the most appropriate ways, autonomy can support the integration of generic skills within a curriculum structured around academic subjects and/or vocational areas.

The review indicates that the inclusion of generic skills for all learners from 14 years old is compatible with diverse approaches to curriculum and pedagogy policies; education systems with quite different approaches to teaching and learning have found routes to the inclusion of skills; this includes systems where there is also an emphasis on the importance of knowledge. The review also suggests that the inclusion of generic skills is compatible with the high academic achievement of learners, given the comparative success of countries that do include generic skills on international comparative tests. If there is a policy driver to give greater emphasis to generic skills, the comparative review points to different ways this can be achieved through a range of mechanisms and using different models compatible with other policies in England.

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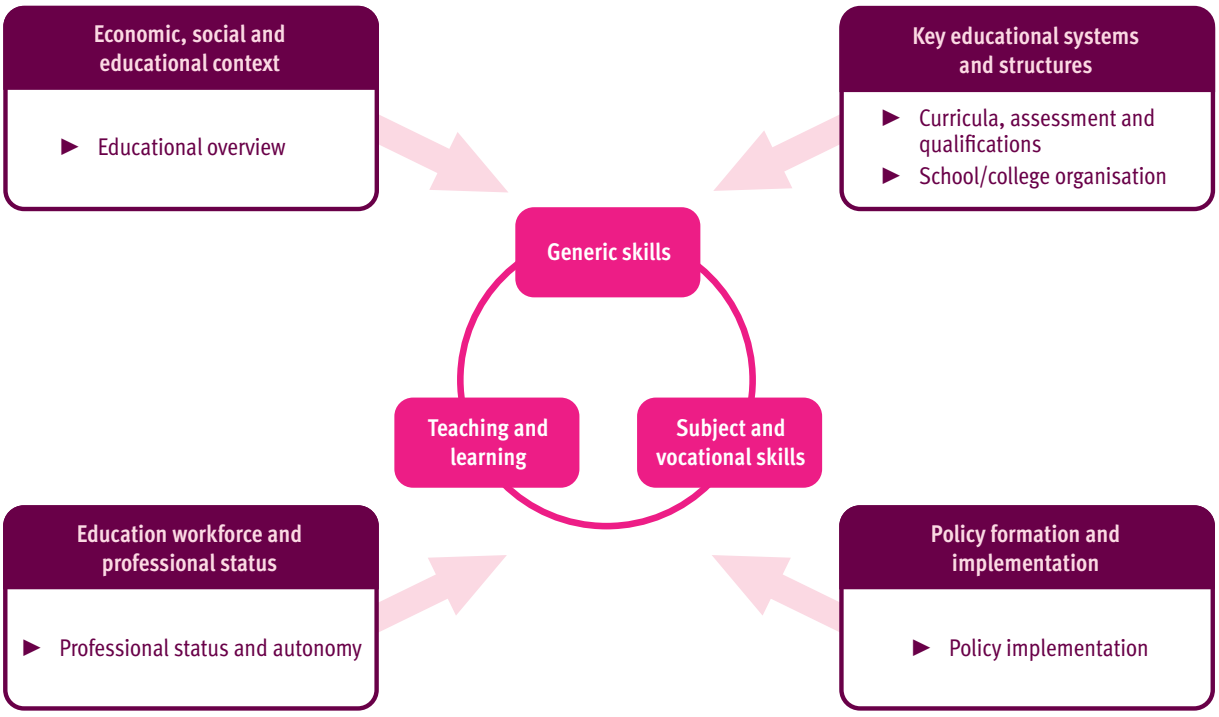
Appendix: Review framework

In **Appendix Figure 1** below, at the centre are three interacting elements, referred to collectively here as the skills nexus – generic skills, subject skills and teaching and learning methods and approaches. The concept of skills itself is contested in the UK and internationally with the same term being used for different areas. One element of the review was to clarify how the term skills is being used, and forms part of Table 2 further below.

The review establishes two types of skills: generic skills and subject skills, with a specific focus on the characterisation of generic skills. Four types of influences are represented in the framework: the economic, social, and educational context; the key educational systems and structures; the education workforce and professional status; and policy formation and implementation. These are discussed later in the report as factors which influence the characterisation and provision of generic skills.



Appendix Figure 1

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Knowledge Applied