TRANSFERABLE COMPETENCES AND PERSONAL, SOCIAL AND EMPLOYABILITY (PSE) QUALIFICATIONS: SOME INTERNATIONAL EVIDENCE

A REPORT TO THE GATSBY FOUNDATION

SIMON FIELD

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DISCLAIMER

The views and opinions expressed in this report are those of the author and do not necessarily state or reflect those of the Gatsby Charitable Foundation.

SUMMARY: WHAT THIS REPORT SAYS

This report looks at some of the wider international experience and evidence that relates to personal, social and employability (PSE) qualifications in England. Findings include:

- The emphasis on transferable competences has increased in many countries in recent decades. These include teamwork, perseverance and creativity, and are distinct from cognitive skills like numeracy and literacy. This has been in response to growing evidence of the importance of these competences, over and above academic and vocational skills, for work and life.
- A diverse and confusing terminology has been used to describe these competences.
- Many countries have sought to identify and use a shortlist of key transferable competences. Sometimes, but not always, these are linked to employer requirements. However, the methodologies used to create these lists are not always clear and are often based on the views and values of key stakeholder groups. Such lists have been used to support both vocational and academic curricula. Some examples are given in Table 1.
- Both Scotland and Wales employ lists of key competences. In Scotland a set of five core skills are systematically mapped onto vocational qualifications by the Scottish Qualifications Authority. In Wales seven transversal skills[1] are addressed in a special module of the Welsh baccalaureate.
- There is evidence, both from other countries and from the UK, that many of the less-cognitive competences are of substantial labour market value. Interpersonal competences, in particular, are of growing importance. This reflects the fact that interpersonal skills, unlike many other skills, are hard to automate.
- It has been widely argued that many less-cognitive transversal competences need to be learned and assessed in context. This often means in the workplace instead of in the classroom, as academic models of learning and assessment work best with cognitive skills rather than with less-cognitive skills.
- Few countries outside the UK have qualifications similar to the PSE qualifications in England. However, many training programmes, particularly those directed at youth at risk, seek to develop transversal competences (similar to those targeted by PSE qualifications) alongside other forms of training, which may also include job search strategies and work experience.
- Interventions to improve the employability of youth at risk in developed countries have not often been effective. Those programmes that have proved effective tend to be intensive and comprehensive and include interventions to develop transferable competences alongside other elements.

1 "Transversal skills are those typically considered as not specifically related to a particular job, task, academic discipline or area of knowledge but as skills that can be used in a wide variety of situations and work settings." UNESCO-UNEVOV. *TVETipedia glossary*. https://unevoc.unesco.org/home/TVETipedia+Glossary/filt=all/id=577

1. INTRODUCTION

TRANSFERABLE COMPETENCES, INCLUDING QUALITIES SUCH AS RESILIENCE, HAVE RECEIVED INCREASING RECOGNITION

In recent years, there has been increasing recognition that some broader human characteristics that go beyond specific academic disciplines (like history) or occupation-specific skills (like the ability to drive an HGV vehicle) are extremely important for both life and work. Numeracy and literacy are widely recognised as important skills, but many transferable competences have a less prominent cognitive element. Transferable competences include capacities and traits such as creativity, resilience and adaptability. Some, like working with others, are recognised as being important by employers but, despite their apparent simplicity, such skills involve a complex blend of cognitive, social and emotional skills, and personality traits. They are often context dependent, so that a competent leader in one organisational context may be a disaster in another. They reflect our values, for example, in competences such as integrity and cultural sensitivity. However, teaching, measuring and assessing transferable competences is challenging, and the concepts can therefore be slippery.

IN ENGLAND, SOME OF THESE COMPETENCES ARE PACKAGED INTO PSE QUALIFICATIONS

England has been unusual in seeking to directly package some transferable competences into qualifications designed primarily for young adults. PSE qualifications are aimed at those with limited attainment. They typically aim to develop basic competences in work discipline, working with others and with customers, and similar soft competences. For example, Gateway Qualifications offer "… the generic transferable employability skills needed for employment such as teamwork, communication, problem-solving".[2] City and Guilds employability qualifications cover topics such as behaviour at work, applying for a job, and working as part of a group.[3] At Level 2 and below, PSE qualifications were the subject of review and consultation by the Department for Education (DFE) in 2022, leading to the conclusion:

> *We proposed to develop a set of national standards for PSE qualifications. These standards, similar to the Essential Digital Skills Qualifications (EDSQ) standards, would include core content, key skills, and behaviours, and set out a clear continuum of skills development and progression across the levels. In future, only qualifications which meet these standards would be eligible for public funding.*[4]

2 Gateway Qualifications. *Gateway qualifications Level 2 award in employability skills*. https://www.gatewayqualifications.org.uk/qualification/gateway-qualifications-level-2-award-in-employability-skills-2019/

3 City & Guilds, (2018). *Awards, certificates and diplomas in employability skills (5546): entry 2 unit handbook for centres*. https://www.cityandguilds.com/-/media/productdocuments/skills_for_work_and_life/employability_personal_and_social_development/5546/entry-2/centre_documents/5546_entry_2_unit_handbook_v3-4-pdf.ashx

4 Department for Education, (2022). *Review of post-16 qualifications at Level 2 and below in England. Government consultation response*. October 2022. p.14. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1111512/Review_of_post_16_Qualifications_at_L2_and_below_-_Government_Consultation_Response_-_Oct_2022.pdf

THIS PAPER LOOKS AT HOW OTHER COUNTRIES ADDRESS TRANSFERABLE COMPETENCES AND PROGRAMMES WITH ROLES COMPARABLE TO PSE QUALIFICATIONS

The aim of this paper is to explore how other countries address PSE qualifications and, more broadly, the competences targeted by PSE. Its purpose is to inform the development of policy on PSE qualifications in England.

2. HOW DO OTHER COUNTRIES IDENTIFY, CLASSIFY AND USE TRANSFERABLE COMPETENCES?

SEVERAL FACTORS HAVE DRIVEN AN INCREASING EMPHASIS ON TRANSFERABLE COMPETENCES

In recent decades industrial change has underlined the importance of lifelong learning and adapting to new job requirements. Such change has also been a reminder of the value of skills, like teamworking, that are relevant in nearly all jobs.[5] More recently, evidence has emerged, in response to industrial automation, of the growing relative importance of the social and emotional skills which machines cannot easily emulate – a point pursued later in this report. Research has also shown itself capable of measuring and identifying some of these softer competences (see Box 4). A review undertaken 15 years ago of global developments from a UK perspective states:

> *In most countries around the world where education and training has been under review, there has been some level of concern about the development of generic skills. In many cases, as in the UK, this arises from the views of employers that young people are not capable of taking on work roles: they lack an understanding of work, and do not have sufficient flexibility or other personal attitudes or aptitudes needed to contribute to a modern business. In most cases, this has been accompanied by a belief that the form of schooling is not encouraging self-motivated learning and study skills, civic awareness and enterprise.*[6]

THE TERMINOLOGY FOR THESE COMPETENCES IS CONFUSING

Human abilities are complicated. It is therefore no surprise that attempts to describe broader dimensions of human ability have involved many theories and confusing terminology. This has included '21st century', 'soft', 'social and emotional', 'transversal', 'transferable', 'cross-curricular', 'generic', 'metaskills', 'employability', 'essential', 'key' and 'core' competences and skills. Smith and Comyn[7] identify several other terms which are used fluidly, referring to slightly different things while also overlapping.

5 For example, a 2016 OECD report prepared for the G20 Employment Working Group emphasised that "The flexibility and incentives of education and training systems and stakeholders need to be enhanced to respond more promptly to emerging skill needs. The adaptability of the workforce – both workers and jobseekers – should be encouraged through the development of transferable skills, broader vocational profiles and competency-based training delivered through programs that incorporate work-based learning, including quality apprenticeships." OECD, (2016). *Enhancing employability*. Report prepared for the G20 Employment Working Group. https://www.oecd.org/g20/topics/employment-and-social-policy/Enhancing-Employability-G20-Report-2016.pdf

6 Hart, J. and Howieson, C. (2008). *Core skills past, present and future*. Report to Scottish Qualifications Authority. p.12. https://www.sqa.org.uk/sqa/files_ccc/CoreSkillsPastPresent_and_FutureReport.pdf

7 Smith, E. and Comyn, P. (2003). *The development of employability skills in novice workers*. https://ams-forschungsnetzwerk.at/downloadpub/nr2005_ncver_australia.pdf

THERE IS MORE CONSENSUS OVER THE 'KNOWLEDGE, SKILLS AND BEHAVIOURS' TRIPARTITE CLASSIFICATION OF COMPETENCES

The American educational psychologist Bloom identified all learning in terms of: cognitive learning; psychomotor learning, which involves physical skills; and affective learning, associated with emotions and attitudes (Bloom, Mesia and Krathwohl, 1964).[8] This threefold framework has been adopted by many skills systems to provide a classification of three different types of competence. In England it is used in apprenticeship and occupational standards. Similarly, the European Commission refers to competences as "knowledge, skills and attitudes".[9] In Australia, all vocational qualifications, including apprenticeships, are competence-based and are also identified in relation to "skills, knowledge and attitudes".[10] In the German apprenticeship system, occupational competence is described in terms of "skills, knowledge and abilities" (*Fertigkeiten, Kenntnisse und Fähigkeiten*).[11] In Switzerland, occupational competence is described as "knowledge, skills and behaviours" (*connaissances, aptitudes et comportements*).[12]

SOME DISTINCTIONS ARE IMPORTANT BUT NOT BINARY

Some key distinctions between types of competence, such as transferable/non-transferable and cognitive/non-cognitive, are often presented as binary, but this can be misleading. The three distinctions which follow show that competences are on a spectrum:

- The distinction between competences that are specific to an occupation or sector and those competences that are more transferable. But some qualities are only partly transferable – a creative engineer may not be creative as a politician.
- The distinction between competences that are largely cognitive (like numeracy and literacy) and qualities that depend less on knowledge (like adaptability or perseverance). Many superficially non-cognitive traits, like creativity, also have an important cognitive dimension (Lerman, 2013).[13] So, although the literature often refers to qualities like creativity and teamworking skills as non-cognitive, they will be referred to here as less-cognitive.
- The distinction between those competences that are mainly relevant to working life and those that are more related to civic and personal life. In practice, most competences, ranging from numeracy to honesty, are applicable to both the working and non-working parts of our lives.

8 Bloom, B., Mesia, B. and Krathwohl, D. (1964). *Taxonomy of educational objectives (volumes 1 and 2)*. David McKay.

9 European Commission, Directorate–General for Education, Youth, Sport and Culture, (2019). *Key competencies for lifelong learning*. Publications office. https://op.europa.eu/en/publication-detail/-/publication/297a33c8-a1f3-11e9-9d01-01aa75ed71a1/language-en

10 Australian Government Department of Education and Training. *Fact sheet: competency-based training*. https://www.myskills.gov.au/media/1776/back-to-basics-competency-based-training.pdf

11 BIBB [German government agency], (2021). *Erläuterungen zu den modernisierten Standardberufsbilpositionen.* https://www.bibb.de/dokumente/pdf/HA_Erlaeuterungen-der-integrativ-zu-vermittelnden-Fertigkeiten-Kenntnisse-und-Faehigkeiten.pdf

12 See, for example, the regulation describing a vehicle mechatronician in Switzerland. https://www.fedlex.admin.ch/eli/cc/2017/627/fr

13 Lerman, R. (2013). *Are employability skills learned in U.S. youth education and training programs?* IZA Journal of Labor Policy, Vol. 2(6). https://doi.org/10.1186/2193-9004-2-6

MANY COUNTRIES HAVE DEVELOPED LISTS OF CORE/KEY/ESSENTIAL SKILLS/COMPETENCES

In different countries, efforts have been made to list the most important or key transferable competences (see Table 1). While the lists vary, most include interpersonal skills (working with others/leadership), some notion of personal efficacy (perseverance/self-management/resilience), and most also refer to some high-level intellectual capacity (creativity/problem-solving/critical thinking). English-speaking countries have tended to give more attention to this issue than other countries, but the EU are now actively pursuing their own initiative.

THE METHODOLOGICAL FOUNDATIONS FOR THESE LISTS ARE OFTEN UNCERTAIN

These lists of key competences rarely have a clear methodological basis. Typically they reflect what stakeholders believe are important human qualities for work and life. Sometimes they are based on surveys of what employers say are important to them, but they are largely subjective. Hart and Howieson (2008)[14] for example, point out how across the UK, core skills are often presented as reflecting employer requirements, but in practice the link to employer demand is tenuous. Many choices instead reflect values, as for example, in a quality like global citizenship.

SOME LISTS ARE FOCUSED ONLY ON EMPLOYMENT

The function of these lists varies. Many are intended to be universal, but some are more selective or focused only on workplace competences. For example, in Scotland the five core skills relate only to working life and not to personal or civic life. This is also true of Singapore's critical core skills, and the United States' Secretary's Commission on Achieving Necessary Skills (SCANS) competences (see Table 1).

TRANSFERABLE COMPETENCES, INCLUDING OCCUPATIONAL COMPETENCE, MAY HAVE TO BE CONCEIVED HOLISTICALLY

At least some, and perhaps most of the less-cognitive transferable competences – for example leadership and problem-solving – are not so much discrete skills like the ability to swim, but rather the higher-level ability to make use of several competences to achieve an objective. This means that they only make sense, and have value, when exercised in relation to other competences (see Box 1).

14 Hart, J. and Howieson, C. (2008). *Core skills past, present and future.* Report to Scottish Qualifications Authority. https://www.sqa.org.uk/sqa/files_ccc/CoreSkillsPastPresent_and_FutureReport.pdf

BOX 1. HOLISTIC AND ATOMISTIC CONCEPTIONS OF COMPETENCE

The ability to do a job – occupational competence – is often described in terms of a list of required competences or a list of knowledge, skills and behaviours required for the job. This listing process facilitates the construction of qualifications, curricula, teaching, learning and assessment to cover the list of competences. This is an atomistic approach.

The alternative, more holistic approach, emphasises how competences can only be meaningfully exercised in relation to other competences. For example, communication skills are exercised when a worker receives a rude complaint email from a customer about a technical failure in a product. The worker must understand the written complaint and use their technical knowledge to recognise the issue. They must manage their own emotional response to rudeness. Will a carefully drafted placatory email response be appropriate, or does it require a telephone call, or even a face-to-face meeting? Should they involve their colleagues? What priority does this complaint have relative to other work demands? How quickly should they respond? Is a holding reply appropriate? So communication skills, exercised in an effective response, involve a well-deployed blend of literacy skills, technical knowledge, emotional intelligence, interpersonal skills and work prioritisation.

The holistic approach supports the view that at least some essential aspects of occupational competence, and particularly some key less-cognitive competences, must be taught, learned and assessed in the context of other competences – in other words, in real-world contexts including working life. Skills Development Scotland and Centre for Work-based Learning (2018) argue that "These skills cannot be demonstrated outside of their context and therefore are most effectively learned and developed experientially in the workplace".[15] This is an echo of Lerman's belief in the acquisition of competences through work-based learning.[16] The Richard Review (2012) argued that the assessment of occupational competence in apprenticeships needs to be synoptic (meaning holistic).[17] This viewpoint was also reflected in England in responses to the government's call for evidence and consultation, which reported:

> *… we explored how providers deliver PSE skills to adults and if a qualification was essential. 68% of respondents stated that qualifications were not essential, with 32% stating that they were essential. Those responding that they were not essential argued that these skills should be embedded within other qualifications, non-regulated learning and work-based training such as apprenticeships, traineeships and supported internships.*[18]

15 Skills Development Scotland and Centre for Work-based Learning in Scotland, (2018). *Skills 4.0: a skills model to drive Scotland's future*. https://www.skillsdevelopmentscotland.co.uk/media/44684/skills-40_a-skills-model.pdf

16 Lerman, R. (2013). *Are employability skills learned in U.S. youth education and training programs?* IZA Journal of Labor Policy, Vol. 2(6). https://doi.org/10.1186/2193-9004-2-6

17 Richard, D. (2012). *Richard review of apprenticeships*. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/34708/richard-review-full.pdf

18 Department for Education, (2022). *Review of post-16 qualifications at Level 2 and below in England. Government consultation*. Launch date 2 March 2022. https://consult.education.gov.uk/post-16-qualifications-review-team/review-of-post-16-qualifications-at-level-2-and-be/supporting_documents/Consultation%20%20Review%20of%20post16%20qualifications%20at%20level%202%20and%20below%20in%20England.pdf

3. WHAT EVIDENCE IS THERE FOR THE LABOUR MARKET VALUE OF LESS-COGNITIVE TRANSFERABLE COMPETENCES?

THERE IS EXTENSIVE EVIDENCE THAT LESS-COGNITIVE COMPETENCES CAN YIELD LARGE LABOUR MARKET RETURNS

Evidence has been accumulating for many years that personality traits linked to less-cognitive competences have a large impact on labour market outcomes. A 2013 paper by Lerman[19] and a more recent OECD (2021) review[20] summarise the literature. Findings include:

- A US study reported that, except for college graduates, less-cognitive skills (as measured by indices of locus of control and self-esteem) exerted at least as high and probably a higher impact on job market outcomes than did cognitive skills (Heckman, Stixrud and Urzua, 2006).[21]
- A 2015 OECD review of evidence found that self-efficacy, mastery and self-esteem were better predictors of income at age 25 than cognitive skills.[22]
- A literature review looking at a range of different studies suggested that the different domains of the big five personality traits (see Box 4) predicted labour market outcomes after accounting for intelligence (Roberts, Walton and Viechtbauer, 2006).[23]
- In the UK, males who were more extroverted at age 10 had lower levels of unemployment between the ages of 16 and 29 after controlling for cognitive ability (Macmillan, 2013).[24]
- In the US, much research attention has been given to the personality trait of grit, defined as "perseverance and passion for long-term goals" (Duckworth et al., 2007).[25] The evidence shows that grit can be associated with different measures of both academic achievement and labour market outcomes, and is independent of cognitive ability (Lechner, Danner and Rammstedt, 2019).[26]

19 Lerman, R. (2013). *Are employability skills learned in U.S. youth education and training programs?* IZA Journal of Labor Policy, Vol. 2(6). https://doi.org/10.1186/2193-9004-2-6

20 OECD, (2021). *Beyond academic learning: first results from the survey of social and emotional skills*. OECD Publishing. https://www.oecd.org/education/beyond-academic-learning-92a11084-en.htm

21 Heckman, J., Stixrud, J. and Urzua, S. (2006). *The effects of cognitive and noncognitive abilities on labor market outcomes and social behavior.* Journal of Labor Economics, Vol. 24(3). https://doi.org/10.1086/504455

22 OECD, (2015). *Skills for social progress: the power of social and emotional skills*. OECD Skills Studies, OECD Publishing. https://dx.doi.org/10.1787/9789264226159-en

23 Roberts, B., Walton, K. and Viechtbauer, W. (2006). *Patterns of mean-level change in personality traits across the life course: a meta-analysis of longitudinal studies*. Psychological Bulletin, Vol. 132(1), pp. 1-25. https://doi.org/10.1037/0033-2909.132.1.1

24 Macmillan, L. (2013). *The role of non-cognitive and cognitive skills, behavioural and educational outcome in accounting for the intergenerational transmission of worklessness*. Department of Quantitative Social Science Working Papers 13-01. University College London. https://ideas.repec.org/p/qss/dqsswp/1301.html

25 Duckworth, A. L., Peterson, C., Matthews, M. D. and Kelly, D. R. (2007). *Grit: perseverance and passion for long-term goals.* Journal of Personality and Social Psychology, Vol. 92(6), pp. 1087-1101. https://doi.org/10.1037/0022-3514.92.6.1087

26 Lechner, C., Danner, D. and Rammstedt, B. (2019). *Grit (effortful persistence) can be measured with a short scale, shows little variation across socio-demographic subgroups, and is associated with career success and career engagement.* PLoS ONE, Vol. 14(11). https://doi.org/10.1371/journal.pone.0224814

SURVEYS OF EMPLOYERS TELL THE SAME STORY

Surveyed employers also reported that many soft competences are highly valued but are often in short supply. In a 1996 survey of US employers, 69 per cent reported that they rejected job applicants because they lacked basic employability skills, such as showing up every day on time.[27] Similarly, in the UK, a 1998 survey of 4,000 employers found that the four skills most lacking in 16- to 24-year-olds were technical and practical skills, general communication skills, customer handling skills and teamworking skills (Westwood, 2004).[28] More recent evidence comes from the Employer Skills Surveys where, when prompted, one half or more of employers complained that applicants for jobs and current staff lacked the ability to manage time and priorities, and to work in teams.[29]

EVIDENCE SHOWS THAT THE LABOUR MARKET IMPORTANCE OF SOME OF THESE COMPETENCES IS GROWING

There is growing evidence from around the world, and from the UK, that the labour market value of less-cognitive interpersonal competences is not only substantial but is also of growing importance relative to other types of competence.

So, internationally:

- Deming (2015) showed that in the US since 1980, jobs with high social skill requirements throughout the wage distribution, had grown as a proportion of the workforce. Employment and wage growth had been strongest in jobs that required high levels of both cognitive and social skills.[30]
- A Swedish study looked at changes in the wage returns of less-cognitive skills over the period 1992 to 2013 and found that these returns had roughly doubled over the period, while the returns of cognitive skills, such as numeracy and literacy, had remained stable. Less-cognitive skills were measured through interviews with a trained psychologist who looked at factors such as perseverance, tolerance of stress and interpersonal skills (Edin et al., 2017).[31]

27 Barton, P. (2006). *High school reform and work: facing labor market realities.* Educational Testing Service, Princeton. https://files.eric.ed.gov/fulltext/ED492034.pdf

28 Westwood, A. (2004). *Skills that matter and shortages that don't.* In, Warhurst, C., Keep, E. and Grugulis, I., eds. The skills that matter. Palgrave Macmillan.

29 Winterbotham, M., Kik, G., Selner, S., Manys, R., Stroud, S. and Whittaker, S. (2020). *Employer skills survey 2019: skills needs.* Department for Education. p.127. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/936489/ESS_2019_Skills_Needs_Report_Nov20.pdf

30 Deming, D. (2015). *The growing importance of social skills in the labor market.* Working Paper 21473. National Bureau of Economic Research. https://www.nber.org/system/files/working_papers/w21473/revisions/w21473.rev1.pdf

31 Edin, P., Fredriksson, P., Nybom, M. and Öckert, B. (2017). *The rising return to non-cognitive skill*. IZA Institute of Labor Economics. https://docs.iza.org/dp10914.pdf

Similarly, in the UK:

- A study looking at 39 different transferable skills found that, of all these skills, creativity was the one most likely to be expected by employers in the occupations they also felt would grow in the future (Easton and Djumalieva, 2018).[32]
- A recent study by the government's Skills and Productivity Board reports that the transferable skills for which demand is likely to grow most quickly include STEM knowledge, the ability to teach others and to be a good learner, people skills, creative thinking, and problem-solving.[33]

HARD-TO-AUTOMATE INTERPERSONAL COMPETENCES ARE OF GROWING RELATIVE IMPORTANCE

The explanation proposed for the growing relative importance of less-cognitive transferable competences is that it is, as yet, very difficult to automate interpersonal skills, including communication, teamworking and leadership (Deming, 2015).[34] Conversely, many cognitive competences, even including some at a high level (such as medical diagnosis), can be automated to some degree. The upshot is that the *relative* importance of less-cognitive competences has increased.

32 Easton, E. and Djumalieva, J. (2018). *Creativity and the future of skills*. Creative Industries Policy and Evidence Centre and Nesta. https://www.nesta.org.uk/report/creativity-and-future-skills/

33 Skills and Productivity Board, (2022). *Understanding current and future skills needs*. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1078091/Understanding_current_and_future_skills_needs_-_Policy_Report.pdf

34 Deming, D. (2015). *The growing importance of social skills in the labor market*. Working Paper 21473. National Bureau of Economic Research. https://www.nber.org/system/files/working_papers/w21473/revisions/w21473.rev1.pdf

4. HOW ARE LESS-COGNITIVE COMPETENCES LEARNED, TAUGHT AND ASSESSED?

LESS-COGNITIVE TRANSFERABLE COMPETENCES ARE OFTEN NEGLECTED

Although, as shown, some less-cognitive competences are of growing labour market value, they are often neglected in education and training systems. They do not have champions in sectoral employers (as is the case for occupational competences) or in academic teachers (as is the case for subjects like history or biology). Moreover, less-cognitive competences are hard to teach and assess.

THE MEANINGFUL IMPLEMENTATION OF KEY COMPETENCES HAS PROVED CHALLENGING

Even when a set of key competences are identified and promoted, as in the initiatives described in Table 1, these lists of competences have proved hard to incorporate into teaching and learning. The OECD definition and selection of competencies (DeSeCo) framework, which involved a lot of work with many countries, has not meaningfully been implemented anywhere to this author's knowledge. A report by the OECD for the G20 notes that while many countries have included key transferable competences in qualifications and curriculum profiles, corresponding arrangements for their delivery and assessment are often lacking (2016).[35] The EU has tried hard to incorporate its list of key competences, but a review of the impact on the vocational systems of EU countries does not suggest that the list has had much influence and instead shows that individual countries are pursuing their own agendas.[36]

LESS-COGNITIVE COMPETENCES CAN BE TAUGHT SEPARATELY OR IN THE CONTEXT OF WIDER LEARNING

Less-cognitive competences can be taught separately (as in many PSE qualifications), but more usually they are taught and assessed contextually, in relation to other competences – for example, when the ability to work with others is built into different forms of occupational training or integrated into national curricula. One reason is the widely held view that many less-cognitive competences, such as communication skills, are only fully exercised and therefore learned, in the context of other competences (see Box 1). A leading US commentator has drawn attention to the kind of soft competences that can realistically be taught and learned in a classroom context and has also identified limitations:

> *Training programs address non-academic skills at the start, by requiring participants to show up to sessions on time, to dress properly, to recognize strengths and limitation[s], to interact appropriately with the leader and others in the program, and to communicate by looking directly at other people. The key questions are: can non-academic skills be taught? If so, can program-induced changes in these skills yield gains in the job market? In most cases, non-academic skill development is often a byproduct of activities aimed at achieving other goals …*[37]

35 OECD, (2016). *Enhancing employability.* Report prepared for the G20 Employment Working Group. https://www.oecd.org/g20/topics/employment-and-social-policy/Enhancing-Employability-G20-Report-2016.pdf

36 ReferNet, (2016). *Key competences in vocational education and training (VET).* Cedefop ReferNet thematic perspectives series. https://www.cedefop.europa.eu/en/country-reports/key-competences-in-vet

37 Lerman, R. (2013). *Are employability skills learned in U.S. youth education and training programs?* IZA Journal of Labor Policy, Vol. 2(6), p.6. https://doi.org/10.1186/2193-9004-2-6

SOME COUNTRIES INTEGRATE KEY COMPETENCES INTO NATIONAL CURRICULA

Some countries have implemented a defined set of key competences by integrating them into broader educational curricula – typically covering both vocational and academic education. For example, Finland's national core curriculum for basic education (implemented from 2016) includes seven competences (see Table 1). In Scotland, the core skills framework was developed as a national framework for the development and assessment of generic skills in all publicly funded education and training in Scotland, other than university qualifications (see Hart and Howieson, 2008[38] and Box 2). In Australia, seven general capabilities, established at national level, guide school curricula in the states and territories (see Table 1). England has taken a different approach: the national school curriculum emphasises cognitive skills, but wider transferable competences receive less recognition, except citizenship and personal, social and health education (this last including sex and relationship education, and health education).[39]

38 Hart, J. and Howieson, C. (2008). *Core skills past, present and future*. Report to Scottish Qualifications Authority. https://www.sqa.org.uk/sqa/files_ccc/CoreSkillsPastPresent_and_FutureReport.pdf

39 See the English national curriculum at https://www.gov.uk/government/collections/national-curriculum

BOX 2. CORE SKILLS IN SCOTLAND

In Scotland, five core skills (communication, numeracy, ICT, working with others and problem-solving) are defined as the skills needed in most work environments. The core skills can be delivered as dedicated core skills units or embedded within other qualifications. Each core skill is available at levels 2 to 6 of the Scottish Credit and Qualifications Framework (SCQF) and articulated in some detail in documentation from the Scottish Qualifications Authority. So, for example, the problem-solving core skill is subdivided into three subcomponents: critical thinking, planning and organising, and reviewing and evaluating. Each of these subcomponents is then explained in relation to different levels of the SCQF. So, for example, the planning and organising subcomponent of the problem-solving core skill, at SCQF Level 4 specifies that the candidate must be able to "plan, organise and complete a straightforward task", which includes deciding on the resources necessary for the task, working with others to achieve that end, etc. For the same subcomponent at Level 6, the task must be complex and in an unfamiliar context.

The core skills are also embedded in vocational qualifications. Their inclusion in particular elements of occupational competence are demonstrated through a mapping exercise or are certified separately. The competences must be practised at a standard consistent with the level of the overall vocational qualification. For example, in the SCQF Level 3 apprenticeship in agriculture, the module on implementing environmental good practice at work is mapped onto communication, working with others, and problem-solving.

Sources:

Scottish Qualifications Authority. *The five core skills*. https://www.sqa.org.uk/sqa/83655.html.

Skills Development Scotland. *Core skills and modern apprenticeships*. https://www.skillsdevelopmentscotland.co.uk/what-we-do/apprenticeships/modern-apprenticeships/modern-apprenticeship-group-mag/core-skills-and-modern-apprenticeships/

SOMETIMES KEY COMPETENCES ARE SEPARATELY BUILT INTO CURRICULA FOR TECHNICAL EDUCATION

In the Netherlands, the 1996 vocational education and training (VET) law states that vocational training has to support career development, citizenship and further learning. Consequently, learning to learn, interpersonal, intercultural, and social competences have to be part of vocational programmes. Interpersonal, intercultural, social and civic competences are included in the career and civic section of each upper secondary VET curriculum.[40] Similarly, in Finland, upper secondary vocational qualifications, including apprenticeships, must include social competences, labour market competences and entrepreneurship, as well as other soft competences. The aim is to ensure that all graduates have the ability to be good citizens and are capable of lifelong learning. This means, for example, that people have the skills to take further studies and to adapt to new careers. However, it is acknowledged that integrating these objectives into apprenticeship programmes is challenging.[41] Wales has an unusual model, in that seven key

40 Westerhuis, A. (2016). *Key competences in vocational education and training – Netherlands*. Cedefop ReferNet thematic perspectives series. https://cumulus.cedefop.europa.eu/files/vetelib/2016/ReferNet_NL_KC.pdf

41 Finnish National Board of Education, (2016). *Key competences in vocational education and training: Finland*. https://cumulus.cedefop.europa.eu/files/vetelib/2016/ReferNet_FI_KC.pdf

essential and employability skills are included in the Welsh baccalaureate, but they are learned and assessed separately through the Skills Challenge Certificate (SCC) (see Box 3). It is currently being reformed into a new qualification designed to include the integral skills of creativity and innovation, critical thinking and problem-solving, personal effectiveness, and planning and organising.[42]

BOX 3. INTEGRATING KEY COMPETENCES IN THE WELSH EDUCATION SYSTEM

The Welsh education system includes key transferable competences in two different aspects of its education system: as a component of the Welsh baccalaureate and in free-standing essential skills qualifications.

The Welsh baccalaureate is a framework, in place since 2015, for 14 to 19 education. It can be taken at different levels, and includes a combination of qualifications, including GCSEs, supporting qualifications and the Skills Challenge Certificate (SCC). The SCC is designed to enable learners to develop seven key competences identified as being needed for education, employment and life. These are: literacy; numeracy; digital literacy; critical thinking and problem-solving; planning and organisation; creativity and innovation; and personal effectiveness. It involves 120 guided learning hours (except at advanced level) devoted to the following elements:

- an individual project, (50 per cent) designed to develop learners' independent study and research skills;
- the enterprise and employability challenge (20 per cent) designed to develop enterprising skills and attributes to enhance employability;
- the global citizenship challenge (15 per cent) designed to develop knowledge and understanding of global issues; and
- the community challenge (15 per cent) to identify and participate in community-based opportunities.

Welsh essential skills qualifications are at levels 1 to 3 and are intended to provide "key skills for life, learning and employment". They have four components: application of number, communications, digital literacy and employability. These qualifications can be pursued in different ways, including both classroom and work-based learning approaches. These qualifications are currently under review.

Sources:

For the Welsh baccalaureate see, Engeli, A., Daly, C. and Davidson, C. (2018). *A review of the design and assessment model of the Skills Challenge Certificate, and its place within the Welsh baccalaureate*. https://qualificationswales.org/english/publications/review-of-the-skills-challenge-certificate---welsh-baccalaureate-report/

For the essential skills qualifications see https://www.qualificationswales.org/english/qualifications/what-are-essential-skills-wales-qualifications/

42 Qualification Wales, (2021). *Qualified for the future, the right choice for Wales: our decisions.* https://www.qualificationswales.org/media/7982/qualified-for-the-future-our-decisions.pdf

ASSESSMENT OF LESS-COGNITIVE COMPETENCES IS DIFFICULT AND HARD TO STANDARDISE

Assessment often follows an academic model, with written knowledge-based questions and standardised delivery so that all candidates face the same assessment, thus ensuring test reliability. But this model does not work well for less-cognitive competences. For example, there is consensus on the value of the ability to work with others, but how do we learn and measure this ability? Teamwork is context dependent. Some teams cry out for a maverick to interrupt the groupthink; but existing teams of mavericks have no need of an addition. Truly effective teamworkers have the rare quality of knowing when and where to behave like mavericks. Very little is known about how we might teach and learn teamworking ability. Often the temptation is to translate something which is only partially cognitive into a fully cognitive assessment – as in questions such as "describe the four main types of teamwork" – simply because we know how to teach and assess the classification of different types of teamwork. Despite all these challenges, the OECD has recently launched an initiative to measure the social and emotional skills of school pupils (see Box 4).

BOX 4. MEASURING KEY COMPETENCES: THE BIG FIVE

The measurement of key competences has rested on some well-established psychological classifications of personality traits and the methodologies developed to identify those traits. In the 1930s, psychologists first identified 16 separate personality traits, but in recent decades these have been narrowed down to five main traits which have become known as 'the big five'. They are openness, conscientiousness, extroversion, agreeableness and neuroticism.[43] Typically, these personality traits are measured using self-report questionnaires, a range of which is available.[44] These questionnaires have proven relatively robust in demonstrating that such traits are reasonably (although not completely) stable over time. One big advantage of these psychometric measures is that they can be standardised, so that the same assessment is undertaken of every individual.

Traits in the big five, such as agreeableness, are clearly related to the capacity to work with others, and openness can also be linked to creativity. A 2021 OECD study of social and emotional skills used the big five but redescribed them as task-oriented: open-mindedness (eg tolerance), task performance (eg persistence), engaging with others (eg sociability), collaboration (eg trust) and emotional regulation (eg emotional control). Survey respondents (students, parents and teachers) completed a questionnaire in which they indicated the extent of their agreement or disagreement with statements regarding their own (or the student's) beliefs, preferences, usual behaviours and attitudes. Findings emerged from the study that spanned countries. For example, self-reported creativity declined markedly between the ages of 10 and 15; and social and emotional skills appear strongly related to psychological well-being.[45]

But while personality traits can be measured, and some of them, such as conscientiousness, are strongly related to job performance, abilities involve much more than personality traits. An agreeable person is not necessarily effective at working with others. Creativity requires sophisticated thinking capacity and imagination, as well as openness. The effective worker is persistent when necessary, but not to the point of stubbornly pursuing a fruitless course of action. So the OECD report stretches a point when it talks of skills rather than personality traits. It is with these limitations in mind that it has been so often argued that occupational competence can only be fully tested in real-world contexts. This necessarily abandons many of the benefits of standardisation, in terms of test reliability, in favour of the higher level of validity obtainable from real-world assessment.[46]

43 See, for example, Cherry, K. (2022). *What are the big 5 personality traits: history of the 5-factor model of personality.* https://www.verywellmind.com/the-big-five-personality-dimensions-2795422

44 John, O., Naumann, L. P. and Soto, C. J. (2008). *Paradigm shift to the integrative big five taxonomy.* In, John, O., Robins, R. W. and Pervin, L. A., eds. Handbook of personality: theory and research. Chapter 4, pp.114-158. https://www.ocf.berkeley.edu/~johnlab/pdfs/2008chapter.pdf

45 OECD, (2021). *Beyond academic learning: first results from the survey of social and emotional skills*. OECD Publishing. https://www.oecd.org/education/beyond-academic-learning-92a11084-en.htm

46 For more on this see the discussion in Field, S. (2021). *A world without maps: assessment in technical education*. Report to the Gatsby Foundation. https://www.gatsby.org.uk/uploads/education/reports/pdf/assessment-in-technical-education-simon-field.pdf

5. WHAT QUALIFICATIONS AND PROGRAMMES FOUND IN OTHER COUNTRIES ARE PARALLEL TO THE PSE QUALIFICATIONS?

PARALLELS TO PSE QUALIFICATIONS AT LEVEL 2 ARE RARE

It is hard to find real parallels to PSE qualifications at Level 2. While in other countries, as discussed in earlier sections, wider transferable and employability competences are part of policy and sometimes curricular frameworks, they rarely appear in the form of free-standing qualifications. There are several reasons for this:

- The main international framework for comparing the level of education and training programmes (independently of their subject matter) is the International Standard Classification of Education (ISCED). While it has weaknesses that make comparability problematic, it has no real competitors, and within the EU, the European Qualifications Framework follows its guidelines very closely.

- For many countries, ISCED Level 2 primarily refers to standard lower secondary education taught in schools. In most countries free-standing Level 2 qualifications are not common – for example, France has no such qualifications. Typically Level 2 in the English qualification framework corresponds to Level 2 in the ISCED (lower secondary education). In the official mapping for the UK, the "key skills qualifications available at [National Qualifications Framework] NQF levels 1 to 4: communication; application of number; information communication technology; working with others; improving own learning and performance; and problem solving" are identified as Level 2 in the ISCED.[47]

- It may partly reflect qualifications which are less 'official' and are therefore not declared for the purposes of international classification, but very likely it also reflects the fact that other countries do not make extensive use of qualifications at Level 2 outside lower secondary school education. Germany, for example, declares a range of programmes at Level 2 designed for those students who have not been accepted onto an apprenticeship[48] – these programmes are mostly part of the German transition system, designed to help students secure an apprenticeship. But these programmes, typically organised locally, do not necessarily even involve assessment and certainly not qualifications.

- Similarly, in a 2008 study looking at Scotland in the international context, Hart and Howieson argued that while many countries were introducing key competences into their curricula, the emphasis on qualifications and assessments was much greater in Scotland and the same is almost certainly true of England.[49]

- The UK system, of having various awarding bodies and a somewhat open market approach to qualifications which are subject to some regulation, is unusual internationally. More often in Europe, qualifications are nationally organised, even when employers have a leading role in their creation. For these reasons, the number of qualifications and qualification types is typically much lower than in the UK.

47 See the ISCED mapping: *Scope UOE* https://uis.unesco.org/en/files/isced_2011_mapping_en_united_kingdom-xlsx. These mappings are prepared by UK authorities and agreed with international agencies including OECD and UNESCO.

48 See the ISCED mapping for German programmes http://uis.unesco.org/en/files/isced_2011_mapping_en_germany-xlsx

49 Hart, J. and Howieson, C. (2008). *Core skills past, present and future*. Report to Scottish Qualifications Authority. https://www.sqa.org.uk/sqa/files_ccc/CoreSkillsPastPresent_and_FutureReport.pdf

BUT TRAINING PROGRAMMES IN MANY COUNTRIES OFTEN INCLUDE TRANSFERABLE SKILLS

- One interesting programme, which emphasises less-cognitive skills and has been carefully evaluated, is the US initiative, the National Guard Youth Challenge.[50]
  - The programme targets high school dropouts (or those at risk of dropping out), aged 15 to 18, who enrol voluntarily. The aim is to improve the education, life skills, discipline and employment potential of participants. It has been running since 1993 and has nearly 200,000 graduates. After an initial two-week assessment, a 22-week residential programme begins, promoting leadership/followership, responsible citizenship, service to the community, life-coping skills, physical fitness, health and hygiene, job skills, and academic excellence – in other words, many less-cognitive as well as cognitive skills. The programme adopts a military approach to discipline, teamwork and physical fitness. It is an intensive and relatively costly programme.
  - A systematic evaluation randomly assigned applicants either to the programme or to a control group receiving no intervention. Analysis revealed statistically significant but modest improvements in learning how to organise time, how to control one's temper, the challenges of being a leader, presenting ideas without criticising others, and encouraging different points of view. The programme improved employment outcomes, so that three years after completing the programme, participants were more likely to be in work and earning higher wages than those who had not passed through the programme.[51]
- In Scotland, the National Certificate in Employability and Citizenship qualification at SCQF Level 3 is designed to "help [candidates] into employment, further learning and/or other training opportunities" and to improve their jobseeking, digital and interpersonal skills.[52]
- In the US, the National Career Readiness Certificate appears to have rather similar objectives to PSE qualifications, in that it is designed to demonstrate essential work skills to employers. However, in practice, it is primarily an assessment of numeracy and literacy, not soft employability skills. It has three main components: applied mathematics, workplace documents (which is literacy based) and graphic literacy (which is the ability to use material such as floor plans and statistical charts).[53]
- In Ireland, the Skills for Work programme, launched in 2008, "is a part-time education and training initiative aimed at the employed who are over 18 years of age with outdated skills or low educational qualifications." Although coordinated nationally, local programmes "are delivered and designed in a flexible and adaptable way to meet the needs of the employer and the employee and to ensure minimal disruption to the employee's work pattern. Programmes are usually of 25 hours duration, with sessions lasting approximately two to three hours at a time." Learning can take place in an education centre or be work-based and is carried out by a tutor with a group

50 See website for programme https://ngchallenge.org/wp-content/uploads/FY21-NGYCP-Fact-Sheet-1.pdf

51 Millenky, M., Bloom, D., Muller-Ravett, S. and Broadus, J. (2011). *Staying on course*. MDRC Publications. https://www.mdrc.org/sites/default/files/full_510.pdf

52 Scottish Qualifications Authority, (2021). *Arrangements for: National Certificate in Employability and Citizenship at SCQF level 3*. https://www.sqa.org.uk/sqa/files_ccc/Employability_and_Citizenship_SCQF_Level_3.pdf

53 See website for details https://www.act.org/content/act/en/products-and-services/workkeys-for-educators/ncrc.html

of 6-8 learners. The programme aims to deliver competences in communication, digital skills, and personal effectiveness, but courses are adapted to the specific work situation of the learners, identified in consultation with local employers.[54]

- In Australia, a government programme, Employability Skills Training, provides 150 hours of intensive pre-employment training. The first 75 hours cover job search skills, communication skills, working in teams and problem-solving. The second 75 hours explore career options, provide some industry-specific skills and industry-specific job search guidance.[55]
- In Canada, Vancouver Island University offers a suite of programmes designed to help with job readiness. For example, Job Readiness I covers positive work habits, attendance, following directions, work attitudes and self-assessment. The Skills for Life and Work I programme covers social skills, self-esteem, self-awareness and their relation to career choices. Some of these courses are specifically designed for students with developmental and cognitive disabilities.[56]

54 Burke, N, and Condon, N. (2016). *Key competences in vocational education and training – Ireland.* Cedefop ReferNet thematic perspectives series. pp.12-13. https://cumulus.cedefop.europa.eu/files/vetelib/2016/ReferNet_IE_KC.pdf

55 See website for details https://www.dewr.gov.au/employability-skills-training

56 See website for details https://www.viu.ca/courses/access#

6. WHAT IS THE INTERNATIONAL EVIDENCE OF THE VALUE OF PROGRAMMES DESIGNED TO INCREASE EMPLOYABILITY?

RELATIVELY FEW PROGRAMMES ARE EFFECTIVE IN IMPROVING THE EMPLOYABILITY OF YOUTH AT RISK

There is evidence of the effectiveness of interventions designed to improve the employability of disadvantaged young people. These programmes often include, alongside other elements, attempts to develop employability skills in forms analogous to PSE qualifications in England. Evidence shows their effectiveness is very limited: in one meta-analysis, only 20 per cent of such programmes in OECD countries showed any positive impact. Similar programmes in developing countries showed more positive results, possibly because youth at risk in developed OECD countries are a relatively smaller group than in developing countries, and they consequently have more deep-seated problems.[57]

THE SUCCESSFUL PROGRAMMES ARE INTENSIVE AND COMPREHENSIVE

The minority of programmes which do show a positive impact share the characteristics of being intensive and relatively comprehensive, including life skills education alongside job search assistance, work experience, specific occupational training and counselling. Two programmes that have shown positive results are the US Job Corps programme and the UK New Deal for Youth (see Box 5). The Jovenes programmes in Latin America share similar characteristics and have also been shown to be successful.[58]

NARROWER AND LESS INTENSIVE INTERVENTIONS WITH YOUTH AT RISK MAY NOT REACH A REQUIRED THRESHOLD

Why is there so little evidence that narrower and/or less intensive training interventions are effective? One possibility is a threshold effect. As suggested in Box 1, separate elements of occupational competence only gain value when brought together. So, for example, it is only when self-confidence and the ability to work with others are blended with other and more specific occupational skills that a worker becomes able to successfully undertake a work task. Just like a car with only three wheels, partial occupational competence gained through a specific intervention could have zero labour market value.

57 Kluve, J. (2014). *Youth labour market interventions*. IZA World of Labor: https://wol.iza.org/uploads/articles/106/pdfs/youth-labor-market-interventions-in-oecd-countries.pdf

58 For more details of the Jovenes programmes visit https://unevoc.unesco.org/fileadmin/user_upload/pubs/Chile%20Joven,%20Job%20Training%20Programs%20in%20Latin%20America.pdf

BOX 5. SUCCESSFUL PROGRAMMES TO IMPROVE THE EMPLOYABILITY OF YOUTH AT RISK

The US Job Corps programme "began in 1964 with the objective of teaching eligible young adults the necessary skills to improve their employability and independence and place them in meaningful jobs or further education. Applicants must be 16- to 24-years-old … and economically disadvantaged … Participants enrol in a 30-week course to learn a trade, earn a high school diploma or general educational development (GED) certificate, and receive assistance in finding employment. The program has four stages: outreach and admissions, career preparation, career development, and career transition. Career preparation is the profiling stage, career development is the core training stage, and career transition is the placement stage. Participants receive a monthly allowance during their training in addition to career counseling and transitional support for up to 12 months after graduation." A randomised control trial showed earnings gains for programme participants compared with youth in the control group in the first two years after completing the programme. However, the earnings gains do not always continue and do not always justify the high costs of the programme.

The UK New Deal for Young People began in 1998 and sought "to help unemployed youth increase their employability and transition into work. Participation is mandatory for all 18- to 24-year-olds who have been receiving unemployment benefits … for six months or more. Participants in the program first go through a period of job-search assistance before being offered training or alternative programs … If the participant is still unemployed and receiving a Jobseeker's Allowance at the end of the gateway period (a maximum of four months), one of four New Deal options is available: full-time education and training, job subsidy (employers' option), public employment (environmental taskforce), or voluntary work … The third and final stage is a follow-through period with continuing advice and assistance to those remaining on assistance after completing their option. Evaluation results suggest that the New Deal has led to a significant increase in outflows from welfare to employment and that the social benefits outweigh the costs" often due to enhanced job search assistance.

Source:

Kluve, J. (2014). *Youth labour market interventions*. IZA World of Labor. pp.5-6 https://wol.iza.org/uploads/articles/106/pdfs/youth-labor-market-interventions-in-oecd-countries.pdf

7. CONCLUSION

From the perspective of policy on PSE qualifications in England, what does the international evidence tell us?

- On the positive side, there is abundant evidence, both from other countries and from the UK, of the high and growing labour market value of the less-cognitive competences targeted by PSE qualifications, particularly interpersonal skills. There is also evidence that one programme in the US, which involved intensive development of less-cognitive skills through a residential course involving military style discipline, yielded some positive labour market returns.
- On the negative side, while most countries recognise the value of less-cognitive skills, few countries offer qualifications similar to PSE qualifications in England – although many offer training programmes which include these skills alongside a range of other competences. This more holistic approach is backed by the argument that many important less-cognitive skills, like teamwork, can only be learned and assessed in a real-world context, such as the workplace. Wider evidence also suggests that enhancing the employability of youth at risk is demanding and is only effectively achieved through relatively comprehensive multidimensional and intensive programmes.
- Both Scotland and Wales have different and distinctive approaches to less-cognitive skills. This suggests that much could be learned from more systematic comparisons of approaches to transferable competences within the UK.
- Finally, although it was not the function of this paper to look into this issue, which goes well beyond PSE qualifications, international comparison raises the question of whether England should, like Scotland, Wales and many other countries, establish a list of key transversal competences and use them to support qualifications, programmes and assessments.

Table 1. Different types of key competences developed by countries

EU[i] 8 key competences aimed at supporting education, training and lifelong learning	Literacy competence Multilingual competence Mathematical competence and competence in science, technology and engineering Digital competence Personal, social and learning to learn competence Citizenship competence Entrepreneurship competence Cultural awareness and expression competence
DeSeCo[ii] Definition and selection of competences OECD-led international exercise 3 groups of competences	Using tools interactively – including language, symbols and texts; knowledge and information; and technology Interacting in heterogeneous groups – including relating well to others; cooperating and working in teams; managing and resolving conflicts Acting autonomously – including forming and carrying out life plans; defending and asserting rights and needs; acting within the big picture
UNESCO[iii] 6 transversal competences "encompass skills, values and attitudes that are required for learners' holistic development and for learners to become capable of adapting to change"	Interpersonal skills – including communication and teamwork Intrapersonal skills – including self-discipline and self-awareness Critical and innovative thinking – including creativity and entrepreneurship Global citizenship – including democratic participation and respecting diversity Media and information literacy – including the ethical use of ICT Other – including respect for religious values
UK[iv] Skills Builder Partnership 8 essential skills "Essential skills unlock learning in the classroom, boosting academic outcomes, perseverance and self belief"	Listening Speaking Problem-solving Creativity Staying positive Aiming high Leadership Teamwork
Welsh government[v] 7 skills "… needed for education, employment and life" Addressed through the Skills Challenge Certificate (SCC), part of the Welsh baccalaureate	Literacy Numeracy Digital literacy Critical thinking and problem-solving Planning and organisation Creativity and innovation Personal effectiveness
Scotland[vi] 5 core skills "… most needed in many work environments"	Communication Numeracy ICT Working with others Problem-solving

Sources for this table are listed on the following page

Finland[vii] 7 competences embedded in the national curriculum for compulsory education	Thinking and learning to learn Cultural competence, interaction and self-expression Taking care of oneself and managing daily life Multiliteracy ICT competence Working life competence and entrepreneurship Participation, involvement and building a sustainable future
Singapore[viii] Critical core skills – 16 competences in 3 clusters "… transferable skills that enable individuals to be employable and employed, [and] facilitate their career mobility"	Thinking critically – including creative thinking, decision-making and problem-solving Interacting with others – including collaboration, communication and developing people Staying relevant – including adaptability, digital fluency and self-management
New Zealand[ix] Curriculum identifies 5 "capabilities people have, and need to develop, to live and learn today and in the future" 7 employability competences are defined separately	Thinking Relating to others Using language, symbols and texts Managing self Participating and contributing
Australian government[x] 7 general capabilities form part of the national school curriculum (implemented by the states and territories)	Literacy Numeracy ICT capability Critical and creative thinking Personal and social capability Ethical understanding Intercultural understanding
US[xi] The Secretary's Commission on Achieving Necessary Skills (SCANS) Identified key workplace competences Used to guide several programmes for youth at risk	Foundation skills – basic skills, thinking skills and personal qualities Workplace competences – the ability to use resources, technology, systems and information and to deploy interpersonal skills

[i] Council of the European Union, (2018). *Council recommendation of 22 May 2018 on key competences for lifelong learning.* Official Journal of the European Union. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32018H0604(01)

[ii] OECD, (2005). *The definition and selection of key competencies: executive summary*. https://www.oecd.org/pisa/definition-selection-key-competencies-summary.pdf

[iii] Care, E. and Luo, R. (2016). *Assessment of transversal competencies: policy and practice in the Asia-Pacific region*. UNESCO and United Nations Educational, Scientific and Cultural Organization. https://unesdoc.unesco.org/ark:/48223/pf0000246590

[iv] Skills Builder Partnership. *Universal framework.* https://www.skillsbuilder.org/universal-framework/listening

[v] Engeli, A., Daly, C. and Davidson, C. (2018). *A review of the design and assessment model of the Skills Challenge Certificate, and its place within the Welsh Baccalaureate.* https://qualificationswales.org/english/publications/review-of-the-skills-challenge-certificate---welsh-baccalaureate-report/

[vi] Scottish Qualifications Authority. *Core skills.* https://www.sqa.org.uk/sqa/83654.html

[vii] Finnish National Agency for Education. *National core curriculum for basic education.* https://www.oph.fi/en/education-and-qualifications/national-core-curriculum-basic-education

[viii] Singapore Government Agency. *Skills future: critical core skills.* https://www.skillsfuture.gov.sg/skills-framework/criticalcoreskills

[ix] Te Kete Ipurangi. Ministry of Education. *The New Zealand curriculum online*. https://nzcurriculum.tki.org.nz/Key-competencies

[x] Australian Curriculum. *General capabilities*. https://www.australiancurriculum.edu.au/f-10-curriculum/general-capabilities/

[xi] The Secretary's Commission on Achieving Necessary Skills (SCANS). US Department of Labor, (1992). *Learning a living: a blueprint for high performance*. https://wdr.doleta.gov/SCANS/lal/lal.pdf

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