Highlands College: Redesigning the Curriculum

Review of Best Practice

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Highlands College

In partnership with:

EDGE FOUNDATION

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Foreword – Highlands College

Jersey context

The Bailiwick of Jersey sits just 14 miles (20 km) from the French coast and 85 miles (137 km) from the English coast. The Island is the largest of the Channel Islands and is 45 square miles, divided into 12 parishes. Jersey is a British Crown Dependency, but its proximity to mainland France has influenced life on Jersey, its culture and heritage.

Highlands College of Higher and Further Education is the only Further Education College on the island of Jersey. The College enrols approximately 4500 adults and young people every year, including Higher Education students. The College has a strong tradition of innovation and excellence. It has won awards for work-based learning, community provision for speakers of other languages and partnered with Higher Education Institutions to conduct research, which led to a renewal of vocational pedagogy. It pioneered peer coaching and solutions focussed staff development. In the sphere of curriculum design, Highlands designed its own transition qualifications, awarded by NCFE, which speeds up the progression of students into advanced study, where they achieve high value-added outcomes, having exited secondary schooling with gaps.

Background to our redesign project

Highlands College achieves excellent outcomes for its students with 90% headline achievement, 91% positive destinations, solid stakeholder feedback and very low achievement gaps between distinct demographics.

However, the wider curriculum and qualification framework is based exclusively upon the English FE model with qualifications which in some cases were 10 years old. 25% of young people studying at the College also identified that they did not feel prepared for their next steps. Moreover as technology continually changes industry, the College felt that we were not necessarily preparing students for future careers as well as we could be.

In response, the senior team chose to conduct an extensive curriculum review. The College drew on existing good practice but identified 6 key issues for review:

1. Student contact time was not fully targeted to the individual, often following a one size fits all model
2. 66% of students did not require 3 A-level equivalent qualifications to progress. However, 100% enrolled against the study programme framework
3. In some cases as a result of following English specifications outdated content was being taught
4. The College exclusively followed the English model and was not drawing upon international best practice
5. The College was not fully developing a global outlook within the student body and staff were not often working with other jurisdictions
6. 28% of vocational time could be repurposed to enhance the skills curriculum of Jersey

We are dedicating too much time to delivering outdated specifications which are commercial units sold by awarding bodies and not enough time on enabling the development of rounded, community focused, confident, and engaged students who want to connect with the world. We want to enable our students to have a positive impact and understand their role in ever changing contexts; this requires new ways of thinking and behaving. We could clearly see that replicating the English model, which was in the throes of developing T-Levels, was not going to satisfy our high expectations for students and employers.

Across the world, educational experts and leading employer organisations were telling governments that the current examination heavy, 19th century model of curriculum as product to deliver, was not meeting the current and future needs of learners. Therefore, it became a strategic College priority to re-design our offer for students. The Edge Foundation acted as a critical friend to provide an outside perspective and we drew on their expertise for guidance to develop a curriculum which is rich, broad and balanced. A four year project was launched in 2020 that included to collate international evidence and research findings to help inform our new curriculum offer. We are passionate about preparing students to lead fulfilling lives by engaging in real world learning

What we are trying to achieve

The aims of the project are:

- To enhance the College's curriculum whilst safeguarding and protecting student interests
- To share, learn from and adopt worldwide best practice
- To review stakeholder activity in relation to our curriculum design project
- To foster a culture of innovation and positive change at Highlands College
- To ensure the College's future curriculum framework is meeting the current and future needs of Islanders and is of a consistently high standard
- To support staff to be positively engaged in scholarly activity, research, and professional development
- To oversee partnership working in relation to the project
- To promote and share progress and findings with other jurisdictions

So how will we know we have been successful?

We will have the standard Key Performance Objectives you would expect to see, however, more than that, our students, our staff, and our stakeholders will feel and see a cultural shift. That shift will be about the joy of co-creating an educational experience which gives you the skills to keep learning through life. A curriculum which is informed and shaped by needs, anticipates future trends and keeps the learner central to the process. We anticipate the tutor acting more as a coach, scaffolding and nudging the student through a more personalised curriculum which meets needs and feeds aspirations. For too long, the English education system has been dominated by examinations and assessment burden. As educators it is incumbent upon us to create learning experiences for a post-modern, pluralistic society, where technology is fast changing, and social competency and connectedness will be vital.

International Best Practice

Leading academics at the UCL's Faculty of Education and Society, completed a review of international best practice and drew on research evidence in key areas which cover; enrichment and global citizenship; future and digital skills; health and wellbeing; mentoring and coaching; and next steps into employment, further and higher education. Informed by the specific interests of the college, previous work undertaken by the Edge Foundation and guidance from Lynne, it was agreed that the literature review would focus on particular case studies (Australia/New Zealand, Canada, Finland, Scotland, US, International Baccalaureate, Northern Ireland and England), as an initial point of inquiry from which to investigate and build on. This information confirmed the proposed approach to our curriculum offer and provided ample and compelling evidence that we could do better for our students and employers than the English system was offering.

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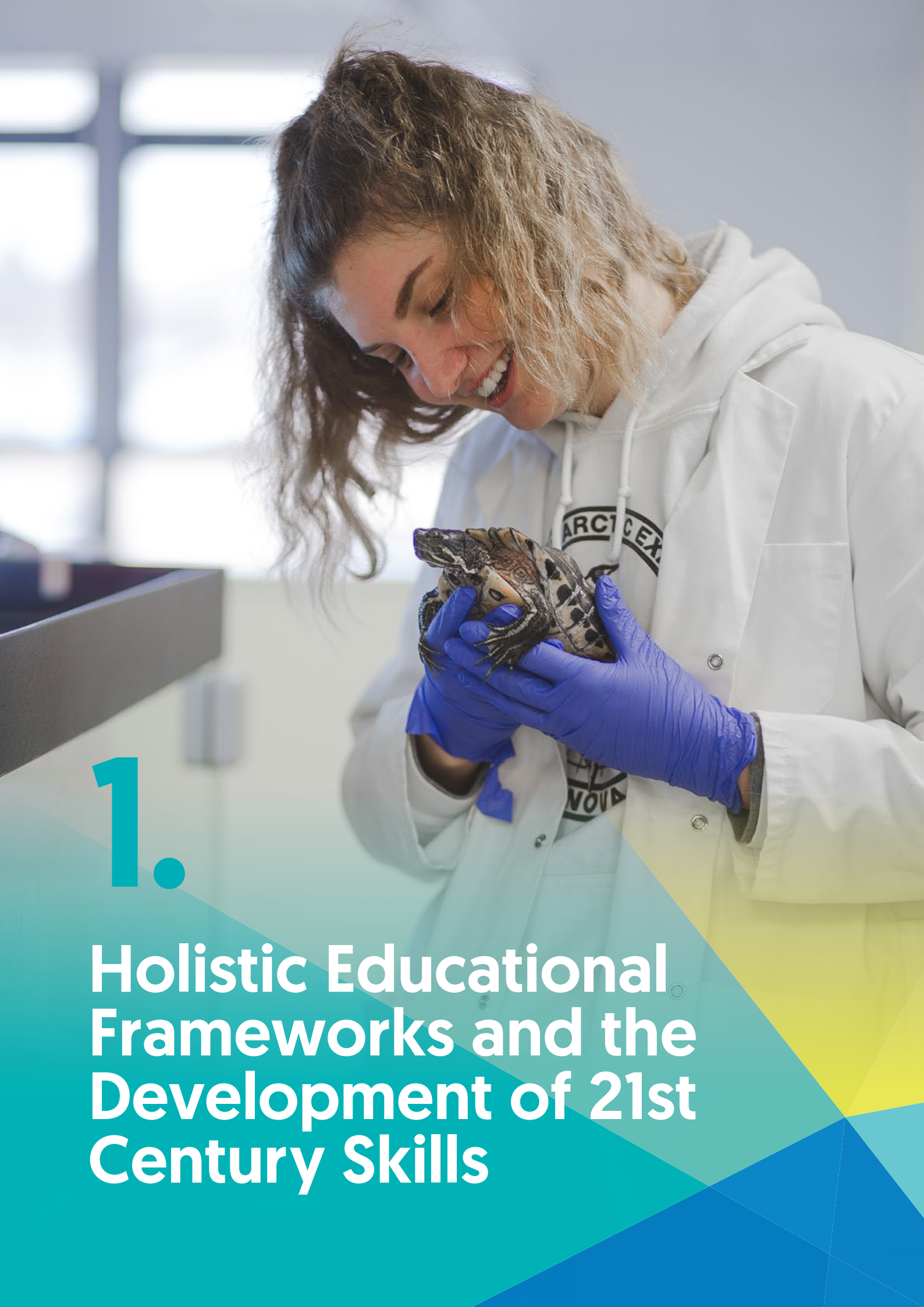

1.

Holistic Educational Frameworks and the Development of 21st Century Skills

Introduction

For some time it has been acknowledged that the international challenges to be faced in the 21st Century require that current students in upper secondary education, whether in schools or colleges, will need to develop a wider range of skills and attributes than previous generations (OECD, 2018). Alongside this sits rapid developments in new technologies that will bring significant changes to the world of work.

Employers are demanding different skill sets (Impetus, 2014; Mann & Huddleston, 2016). For instance, Strongin et al. (2016) representing Goldman Sachs placed an emphasis on social skills, creativity and judgment, while Mourshed et al. (2014) highlighted the importance of spoken communication, teamwork and problem solving. At a curriculum level there are concerns that many young people are receiving a curriculum that is out of date, in part because curricula reforms suffer from a series of time lags and hence lack responsiveness to changes that are taking place in the world (OECD, 2020).

The consequence of an educational offer that is out of touch with the world in conjunction with the international challenges faced, has heralded some stark outcomes for young people.

- Youth unemployment has remained high in many countries and has worsened during the COVID pandemic.
- Fewer young people are engaged in full time work.
- Traditional pathways to a permanent job are not providing young people with the same employment outcomes.
- Many young people are unable to find employment in the field that they studied and trained for with questions asked about the mismatch between study decisions and employment opportunities.
- In some countries there is an increase in the proportion of young people not fully engaged in education or training at the age of 24 (England – ONS, 2021; Australia – Torii & O'Connell, 2017).

Young people will face a very different world from those of previous generations and as part of this will need to navigate complex environments and multiple careers during their adult lives. Changes to the labour market, internationally, also mean that there are more complex careers for young people to consider, more options in work and learning and hence new opportunities (OECD, 2010). The corollary of this is that increased opportunities make decisions harder for young people as they face ongoing complex choices over their lifetime (OECD, 2010). They therefore need more support than previously to navigate through these various educational and career pathways (Cedefop, 2016).

Capabilities and competencies

Internationally, attention has turned to reconsider approaches to education so that young people are equipped with the capabilities that enable them to thrive. Alongside this sits a growing evidence base for the power of capabilities (Schleicher, 2016; The Foundation for Young Australians, 2016). These broader learning goals, often referred to as non-cognitive skills, capabilities, competencies or 21st century skills include critical thinking, problem solving, creativity, curiosity, interpersonal and communication skills, self-regulation, grit, entrepreneurial skills, teamwork and craftsmanship. For instance, the World Economic Forum (WEF) Education 4.0 Framework (2020) identifies global citizenship skills, innovation and creativity skills, technology skills and interpersonal skills in terms of context, and personalised and self-paced learning, accessible and inclusive

learning, problem-based and collaborative learning, and lifelong and student-driven learning as experiences – leveraged by innovative pedagogy. The OECD Learning Compass 2030 (2020) illustrates the types of competencies – the knowledge, skills, attributes and values –students will need to develop to reach the goal of well-being.

Frameworks across jurisdictions

In support of enabling young people to develop 21st century skills, many jurisdictions internationally have defined broad goals of learning/frameworks to support wider learning outcomes (OECD, 2015). Across countries each framework uses its own terminology and categorisation, but within this many competencies are mentioned repeatedly albeit with different names (Chalkiadaki, 2018). Among the most popular are creativity, critical thinking, problem-solving skills, communication, collaboration, digital competencies, meta-cognition, self-regulation and responsible citizenship (Dede, 2010; Voogt & Pareja Roblin, 2012). In addition, there has been an increased focus on young people's social and emotional well-being and on their physical and mental health (McGuinness, 2018).

Similar to the approaches taken to career education discussed in chapter 5: next steps into employment, further and higher education, there are three different approaches to implementing curriculum frameworks that focus on 21st century competencies: adding new subjects or new content within existing subjects, integration as cross-curricular competencies or transforming the curriculum (Voogt & Pareja Roblin, 2012). Alongside this are considerable pedagogic challenges that require a shift from teaching as the transmission of knowledge to learning environments that focus on authentic learning activities, collaborative learning, problem solving and one in which students actively construct knowledge.

What is distinctive about the frameworks described below is that each framework underpins the curriculum offer and is not viewed as a bolt-on extra. All place students at the centre of learning and are trying to break down subject barriers in favour of larger areas of knowledge that integrate 21st century skills, with an emphasis on cross-curricular and enquiry-based projects. By contrast, in England for example, the secondary curriculum is not particularly integrated, but remains a set of different subjects that are taught in separate blocks, and in which student choice is often restricted due to the requirements of Progress 8 and the English Baccalaureate (EBacc). Added to this is a high-stakes test and examination-based accountability system and an exacting inspection regime (Creese & Isaacs, 2016).

Australia

Although there is an overarching national Australian curriculum with traditional subject domains, three overarching goals and seven general capabilities, Victoria State takes a different approach with four capabilities: critical and creative thinking, ethical capabilities, intercultural capabilities, and personal and social capabilities across several learning areas. Learning areas for instance, the arts, humanities and technologies are seen to represent different ways of seeing the world or epistemologies. The four capabilities are cross-curricular and are taught in and through the learning areas. Underpinning the curriculum design is the assumption that knowledge and skills are transferable across learning areas and capabilities. In addition, Victoria has codified the concepts with content descriptors and achievement standards mapped from Kindergarten to Year 10. Schools have considerable flexibility in the design of their teaching and learning programme. This enables schools to develop specialisations and areas of expertise and innovation while ensuring the curriculum is delivered (VCAA, 2015).

Finland

In Finland transversal competences have been emphasized since 2014 and have been integrated into the aims of various school subjects. They include:

- Thinking and learning to learn
- Cultural literacy, communication and expression
- Managing daily life, taking care of oneself and others
- Multi-literacy
- ICT-skills
- Entrepreneurial and work life skills
- Participation and building sustainable futures (Finnish National Board of Education, 2016).

They are emphasized in collaborative classroom practices through engaging students in multidisciplinary, phenomenon- and project-based studies. The implementation of the transversal competences for teaching and learning promotes students' growth as human beings and as citizens. To support the adoption of transversal competences, the national level core curriculum was designed in an extensive collaboration process where the Finnish National Board of Education worked side by side with municipalities, schools, and teachers as well as teacher educators, researchers, and other key stakeholders. At the level of the local curriculum, there is autonomy for teachers in designing the curriculum and developing their own innovative approaches for implementing the transversal competences into teaching and learning. This autonomy reflects a broader feature of Finnish education: teachers are expected to be pedagogical experts, researchers and leaders, and they have a comparatively high degree of autonomy (Sahlberg, 2015), unlike in England.

Underpinning the implementation of the curriculum was a sustained teacher education development programme which offered a supportive environment for teacher educators and teachers to familiarize themselves with 21st century competences. It also helped them plan teaching and learning strategies that support these competences (Müller et al., 2010).

More recently a new national core curriculum for upper secondary schools was published in 2019, with implementation commencing in August 2021, with revisions made to the transversal competences which will be:

- Well-being competence
- Global and cultural competence
- Ethical and environmental competence
- Civic skills
- Interaction skills
- Multidisciplinary and creative competence (Finnish National Agency for Education, 2020)

There is also a strong focus on a communal culture which embraces contacts with the world around the students, including internationalisation and cooperation with higher education institutions and the world of work and entrepreneurs, to equip students with the diverse skills needed for building a good life. The new core curriculum is structured around modules at the national level, which provide the building blocks for study units developed at the local level. The study units, whose scope is defined as competence points, may differ in size and be common to several subjects (Finnish National Agency for Education, 2020).

Ontario, Canada

In Ontario, Canada 21st century key skills are embedded throughout the curriculum and share several similarities with those in Finland, including 'learning to learn/self-aware and self-directed learning', 'innovation, creativity and entrepreneurship' and 'global citizenship and sustainability' (Council of Ontario Directors of Education, 2017). The competencies are:

- Critical thinking and problem solving
- Innovation, creativity and entrepreneurship
- Learning to learn/self-aware and self-directed learning
- Collaboration
- Communication
- Global citizenship and sustainability

To support the implementation of the competencies Ontario established a three-year $150 million Teaching and Learning Fund to support schools to develop innovative practices, enhanced by technology. The fund was to support system-wide change in all schools through inquiry-based learning projects involving students and teachers (Beckett et al., 2017). Through this process all stakeholders were engaged in dialogue to inform the evolving strategy. School boards were asked to focus on four areas:

1. Create more teacher-student learning partnerships and real-world, authentic learning tasks enabled by technology;
2. Provide more opportunities in school for peer-to-peer learning enabled by technology;
3. Provide professional learning about assessment practices that reflect deep learning pedagogy, aligned with Growing Success; and
4. Develop new learning partnerships among educators enabled by technology in addition to face-to-face professional learning (Beckett et al., p. 14).

Findings from each round of funding were published to provide an evidence base for what works. Projects ranged from those focused on the use of mobile technologies to expand where learning takes place and to foster student inquiry, the use of teacher coaches to develop innovative pedagogic approaches, using iPad technology to develop conceptual understanding in maths, the use of blended learning, to action research approaches to explore how technology supports assessment practices (Beggs et al., 2016).

Scotland

Across the four nations of the UK, Scotland has developed a relatively distinctive approach to vocational education and training and skills policy. Curriculum for Excellence (CfE), introduced in 2010, is a broad competency-based approach to education that rests on four fundamental capacities to enable all young people to become: successful learners, confident individuals, responsible citizens and effective contributors. The curriculum is framed and planned for across four contexts: opportunities for personal achievement, interdisciplinary learning, ethos and life of the school as a community and curriculum areas and subjects. In common with other countries teachers are given independence to develop the curriculum in response to the diverse needs of learners and which reflects the local community.

An early evaluation of CfE in one local authority (Priestly & Minty, 2011) draws attention to implementation issues from which lessons can be learned. CfE represented a major shift in its underpinning philosophy that adopted a constructivist view of learning. For some teachers there was a lack of fit between the philosophy of the curriculum and teacher's views of knowledge and learning, particularly evident in secondary schools where learning was viewed more as transmission of content (Priestly & Minty, 2011). However, teachers who had prior experience of interdisciplinary working were highly positive about the approach, in contrast to the minority who perceived CfE as a threat to their subject. Teachers expressed concerns about workload, and some lacked confidence in the implementation of this new approach. They were though positive about initiatives to develop pedagogy and formative assessment. More time was needed by teachers to work alongside others to make sense of the new concepts and at times there were tensions between the ways of working and the continued emphasis on accountability and raising attainment (Priestly & Minty, 2011).

To complement CfE, Scotland pursed further reforms, notably Developing the Young Workforce: Scotland's Youth Employment Strategy (Scottish Government, 2014) and the 15–24 Learner Journey Review (Scottish Government, 2018). Both sought to further support the needs of learners through more diverse options and pathways for learners and better links between schools, employers and higher education.

US: Academies of Nashville and Ford NGL

Career academies are a model of career and technical education that blend academic rigour, instruction that is relevant to students' lives, and strong relationships between students and adults (Brand, 2009). They are a school-within-a-school model, with each high school having three or four career academies to provide a breadth of routes. At age 14 young people join their school's Freshman Academy. During this time, in addition to Maths and English, young people learn essential work skills, such as models of team working and structured note taking, which will set them in good stead across the remainder of their school career. They have time and support to investigate and explore their career options through presentations from older students, careers fairs, job exploration and college visits. This experience helps students to choose the Career Academy that will be their focus for the remaining three years of High School. They range from the Academy of Automotive Design to the Academy of Health Management and the Academy of Digital Design and Communications. The choice of Academy shapes every aspect of a young person's school life, from structured employer engagement like job shadowing to relevant technical education qualifications. Each Academy provides the context for their broader curriculum – young people learn about mathematical formulae from an aviation engineer or English comprehension through the lens of researching a court case with a local lawyer. Students are offered a rich range of employer engagement including industry field trips, job shadowing and internships which help to bring the curriculum to life by emphasizing the relevance of every lesson (Edge Foundation, 2021).

The International Baccalaureate Career-related Programme

The International Baccalaureate Career-related Programme (IBCP) is designed for young people aged 16–19 and has a strong focus on developing global citizens. It aims to enable students to develop transferable lifelong skills that prepare them for higher education, higher level apprenticeships or employment as well as developing their personal qualities. It is an innovative education pathway that offers a flexible blend of academic and career-related studies. Schools create their own distinct offering to reflect the needs, backgrounds, ambitions and learning contexts of their students. The IBCP incorporates the values of the IB

into a unique programme addressing the needs of students engaged in career-related education. Students undertake a minimum of two IB Diploma Programme (DP) courses, a core consisting of four components: Personal and Professional Skills, Service Learning, Language Development and a Reflective Project and a career-related study. DP courses provide students with the theoretical underpinning and academic rigour of the programme; the career-related study further supports the programme's academic strength and provides practical, real-world approaches to learning; and the IBCP core helps students to develop skills and competencies required for lifelong learning (Kent County Council, nd).

Although these approaches vary in the articulation of competencies and capabilities, they share many similarities in the process of curriculum design and the overarching aims. All have been developed with wide stakeholder engagement, promote teacher agency and empowerment in shaping the curriculum offer to align with local needs and to respond to evolving societal issues, emphasize employer involvement and opportunities for young people to engage with the wider world, promote constructivist and problem-solving approaches to teaching and learning and place the lifelong development of young people at the heart of the approach.

Pedagogical approaches implicit in emerging educational frameworks

Evident in the literature reviewed so far is that holistic models of education that support young people to develop transversal skills adopt pedagogic approaches that are personalized, accessible and inclusive, problem based and collaborative, have a focus on enabling students to develop lifelong career management skills and can help young people to develop skill needed for the future. In a recent World Economic Forum (WEF) (2020, p. 10) publication, five innovative pedagogic approaches were identified in enabling a shift from current practice.

1. **Playful** – creating a joyful experience to enable children and young people to find meaning through active thinking and social action.
2. **Experiential** – the integration of content into real-world applications, including project-based and inquiry-based approaches.
3. **Computational** – to enable students to understand how computers solve problems.
4. **Embodied** – incorporating the physical body into learning through movement.
5. **Multiliteracies** – focusing on diversity and the many ways in which language is used and shared and connects learning to cultural awareness.

In Ontario, Canada successful pedagogical approaches to promote 21st century skills included flipped learning, blended learning, collaborative problem solving, inquiry, interdisciplinary projects, immersive authentic simulations, and digital learning platforms (Ontario Ministry of Education, 2016, p. 40).

Given the emphasis on experiential and project-based learning attention is turned to consider this in more depth. Pedagogically, project-based learning is underpinned by three constructivist principles: learning is context-specific; students are actively involved in the learning process; and students learn through social interactions and the sharing of knowledge and understanding (Menzies et al., 2016). Common characteristics of this approach include a) a student-centred learning approach that is organized around achieving a shared goal, b) teachers focused on the role of facilitating learning, c) strong links to a real world problem, and d) engagement in higher order thinking skills such as analysis, evaluation and synthesis.

The underlying pedagogical approach to project-based learning requires multiple shifts in classroom practices and can be challenging for teachers (Azer, 2005; Dole et al., 2016; Frank & Barzilai, 2004). Reported difficulties include initiating the student inquiry process, facilitating dialogic interactions to scaffold learning, and finding the time and resources to support in-depth student investigations (Alozie et al., 2009; Hertzog, 2007; Thomas, 2000).

Evidence suggests that the move from a teacher-centred approach to more student-centred learning is a gradual process and one that requires support and training over an extended period (Hertzog, 2007). Mentoring of teachers is useful as part of this process and can be provided by teachers who are more experienced in project-based learning, educational organizations or from employers. Feldman and Pirog (2011), for example, showed how school teachers working alongside practising scientists in a university developed sufficient knowledge and expertise to deliver authentic, real world science projects in elementary schools.

At School 21 in East London all students from Year 10 onwards, undertake a Real World Learning Project - an innovative approach to work experience. Over a term and a half, students spend half a day a week in the workplace and are tasked with solving an authentic problem for a real organization. The projects all have an authentic outcome produced by the students that must be of genuine value to the organization. Examples include a piece of research, a social media campaign, the redesign of a process, promotional videos, the creation of a piece of art, or the planning and delivery of a community event (School 21, 2020).

A further approach to project-based learning is seen in industry-relevant projects that are developed by schools and colleges in collaboration with employers. In England, the Career Colleges Trust runs an annual industry-led project as an inter-college competition among career colleges. As an example, in 2019, the partnership included Amazon Web Services (AWS), Samaritans, London Sport, Marylebone Cricket Club and UK Active. The involvement of several partners meant that the project crossed boundaries between aspects of digital, and health and social care and thereby extended beyond the curriculum to enable young people to think about the wider community. A total of 58 students from four digital career colleges undertook the eight-week challenge to develop an innovative digital solution to promote the physical, mental and emotional well-being of young people. Each team appointed a project manager, and participants had two project meetings with the client to develop their ideas. The project culminated with students presenting their ideas to judges at the AWS head office in London (Rogers et al., 2020).

Assessment of 21st century competencies and broader skills

What is less developed is how educational institutions assess success in 21st century competencies compared to traditional subjects (Torii & O'Connell, 2017) especially when these are embedded across the curriculum. Holistic approaches to education as seen in problem-based learning may offer affordances here in the focus on authentic assessment and the fact that projects take place over time.

The Skills Builder Framework, developed by Enabling Enterprise (Millard et al., 2017), is gaining traction among schools and colleges and focuses on tracking enterprise education through the monitoring of eight skills: aiming high, creativity, leadership, listening, presenting, problem-solving, staying positive and teamwork. Each skill is clearly defined and broken down into specific teachable steps, milestones and mastery indicators by age group. As part of the framework tools, a teacher assessment and a student self-reflection, were developed to measure student progress toward mastery of the different skills. Through using these tools

schools and colleges understand how to differentiate their approach according to each individual student's needs.
The programme also has its own digital platform with resources for implementers including toolkits for how institutions can integrate the framework into broader institutional systems.

Within the US New Tech Network, all schools adopt project-based learning and students are assessed on five overarching learning outcomes: knowledge and thinking, agency, collaboration, oral communication, and written communication. These outcomes were developed over time in collaboration with teachers, university academics, the business community and learning from research (Adams & Duncan Grand, 2019).
In Ontario, Canada, report cards contain a learning skills section identifying the learning skills that students need to achieve in school and later in life: responsibility, organization, independent work, collaboration, initiative, and self-regulation.

Conclusion

Internationally there is a broad consensus that the curriculum offer for young people needs to be refreshed for young people to thrive in the world when they move into employment. Particular attention has been given to the importance of 21st century skills or competencies in recognition that subject siloed, high content knowledge-based curricula are not in themselves sufficient. Rather innovative pedagogic approaches are required that are personalized, project or inquiry based and collaborative and by their very nature go across subject areas.

Successful implementation of new educational frameworks requires strong stakeholder engagement, professional training and development for staff and a clear vision. There remain challenges in reconceptualising assessment of 21st century competencies in a meaningful way.

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2.

Mentoring and Tutoring

Introduction

The mentoring of students is an extremely popular intervention throughout the world. Big Brothers Big Sisters, for instance, serves more than 200,000 children in the US, has more than 200,000 volunteer mentors and has affiliates in 11 countries including Israel, Poland, Canada and New Zealand (Big Brothers Big Sisters, 2014). Mentoring programmes worldwide vary depending on whether they are based in schools, colleges or the community, on the type of support offered, whether informally or on a weekly basis, the duration of the programme, and on the aims of the mentoring provision, such as academic, behavioural, cultural, interpersonal, psychological, and/or vocational goals. Within this variation there is a consensus about three key elements:

1. The mentor is someone with greater experience than the mentee,
2. The mentor offers guidance or instruction to facilitate the mentee's growth and development, and
3. The importance of the emotional bond between mentor and mentee.

Nearly all mentoring programmes are based on the notion of developing supportive relationships between young people and non-parental adults or older peers. It is these trust-based relationships that enable the needs of the young people to be met (Eby et al., 2008).

Mentoring, tutoring and coaching

Mentoring, tutoring and coaching are related concepts. All three have been defined in various ways and there is overlap between them. For the most part mentoring involves a shared relationship that is usually long lasting in contrast to coaching where the relationship is often of a set duration (Taylor et al., 2017). In mentoring there is a greater focus on the general development of the mentee in relation to self-esteem, perceived success and specific goals (Irby, 2018) which can focus on career and personal development of the mentee in general. (Taylor et al., 2017). Coaching, by contrast, is usually focused on a specific performance event or goal in the individual's life. Once the goal has been reached then the coaching ends. Generally, tutoring focuses on shorter-term goals around learning specific skills and knowledge (Irby, 2012; 2018).

Sometimes tutoring is incorporated as a component of a mentoring programme. Interestingly in a review of mentoring evaluations in New Zealand, provision was found to be more effective if it was one component of a wraparound programme e.g. tutoring rather than standalone mentoring (Farruggia et al., 2011). This contrasts with other reviews where standalone mentoring programmes were equally as effective as those as part of a larger programme (DuBois et al., 2002; Lawner et al., 2013).

The benefits of mentoring

While mentoring has grown in popularity as an intervention to support young people, it is a relatively recent initiative. For instance, in New Zealand the first Youth Mentoring Conference took place in 2000 (Farruggia et al., 2011) and research into the effectiveness of mentoring programmes only emerged in the 1990s with the first largescale meta-analysis published in 2002 by DuBois and colleagues (meta-analyses use statistical techniques to combine studies and look at the average impact that they show). Since then research interest has grown, however, in many countries, including the UK evaluations of mentoring programmes have often adopted

qualitative methods, for instance case studies (Busse, 2018). Small-scale research into single interventions is helpful and often demonstrates positive impact, but it is the larger scale quantitative studies with control groups (random control trials) and research adopting meta-analysis that offer most weight in relation to the benefits of mentoring.

More recent meta-analyses have drawn attention to the positive impact of mentoring in relation to emotional, behavioural and educational domains (DuBois et al., 2011). There is evidence that mentees are likely to perform better than their non-mentored peers (Eby et al., 2008) and they report positive interpersonal relationships (DuBois et al., 2011; Eby et al., 2008). Where reviews have focused on school-based mentoring there are suggestions that mentoring has a positive influence on a young person's relationships and connectedness to others (Wood & Mayo-Wilson, 2012), improves self-esteem (Randolph & Johnson, 2008), and educational outcomes including attendance, academic achievement and attitudes towards school (DuBois et al., 2011; Eby et al., 2008; Tolan et al., 2013). Mann and Kashefpakdel (2014) in a survey of young Britons aged 19-24, found that participation in mentoring was helpful in getting a job after education, deciding on a career and getting into Higher Education There is no reason why the same could not apply to further education colleges.

Not all reviews have reported evidence of statistical significance in the outcome domains and overall effect sizes have been moderate or small (Eby et al., 2008; Rhodes & DuBois, 2008). While there is much more to be understood about how different types of mentoring interventions work, DuBois and colleagues based on their 2011 meta-analysis, conclude that 'mentoring is, by and large, an effective mode of intervention for young people' (p. 80).

Developmental versus instrumental mentoring

Within the research literature two main approaches to mentoring have been identified: developmental and instrumental (Karcher & Nakkula, 2010). Both approaches place importance on youth-centred collaborative relationships in which the young person's perspectives, interests and opinions are respected and encouraged. Both also highlight relationship building and goal-directed activities, but the prominence given to these is different. In the developmental approach emphasis is placed on fostering relational interactions first, and only later including skill-building and competency. Whereas in the instrumental approach there is a much stronger focus on goal-directed activities that relate to a specific purpose from the beginning of the mentoring relationship. The growth of the interpersonal relationship between the mentor and mentee comes later (Karcher & Nakkula, 2010).

In designing mentoring provision consideration needs to be given to which approach is most appropriate. For instance, research has found that mentees in relationships with mentors who take a more developmental approach, feel a closer relationship with their mentors and are more satisfied with the relationship (Deutsch & Spencer, 2009; Karcher & Nakkula, 2010). However, other evidence suggests that where there is a specific purpose or goal behind the mentorship of young people, the structure provided in an instrumental approach can be beneficial. In a review of mentoring provision in New Zealand, programmes that were more highly structured in relation to time, location and activities of mentoring, were more effective than programmes that had less structure (Farruggia et al., 2011). Either way, any mentoring provision should include an element of fun which is a key part of developing relationships.

Who does the mentoring?

Mentors are recruited from different settings including the local community, employers, undergraduates or from within a school or college where the young person is on roll. Research has also explored peer mentoring where younger students are mentored by older students, usually at least two years older, in the same institution. It follows from this that mentoring takes place in different settings and spaces which in turn influence the types of activities that mentors and mentees might engage in. Also, in community settings mentees are often introduced to the programme by their parents or carers, in contrast to school or college-based mentoring where teachers usually identify students for participation (Bernstein et al., 2009).

Offering mentoring sessions in school has been found to help students to direct positive feelings about the programme toward the school, improving their overall attitude to school (King et al., 2002). The main disadvantage arising from research with teachers as mentors to their students is that most educational settings operate within an academic calendar. This means that mentorship rarely takes place outside of term and hence the meetings are less frequent and for a shorter duration than found in community-based mentoring (Karcher, 2008). An advantage though is that school/college-based programmes enable mentors to share ideas with each other, develop different strategies and take part in planned opportunities for training and supervision.

Where employers act as mentors there is often a stronger focus on personal and career development, with the employer mentor providing young people with meaningful encounters with the world of work. As such employer mentoring is seen to provide social capital and support to young people who are unable to access support through their family (Hooley, 2016). Challenges with recruitment, in terms of demand, and matching have been reported however.

Frequently, undergraduate students act as mentors to college students who aspire to go to university. This near peer relationship can provide the mentee with a role-model of someone who has been through what the young person is experiencing. In South Korea, one mentoring intervention sought to narrow the attainment gap between its affluent and low-income youths (Choi & Lemberger, 2010). It was responding to overall school performance in South Korea where, although internationally performance was good, within the country stark divisions had been created between the achievement outcomes of its affluent and low-income youths. Students were mentored by undergraduate students who received training and supervision throughout the programme. Academic outcomes were positive, with significant gains made in Maths and reading (Choi & Lemberger, 2010). See also the collegiate achievement mentoring programme model in the e-mentoring section to follow.

Community-based mentoring programmes typically focus on engagement in specific activities, such as sports, arts and crafts. Where volunteers take part in school-based programmes then these are usually one-to-one conversations in a classroom setting. Evidence suggests these might be a viable alternative to school programmes, as it has been found that community-based mentors spend twice as much time with their mentees as school-based mentors do (Portwood et al., 2005).

Group mentoring

Although most mentoring programmes operate on a one-to-one basis, there has been an increase in group mentoring. Evidence in support of group mentoring suggests that this can be an effective way to improve peer relationships and social skills (Herrara et al., 2002; Karcher et al., 2006). There are concerns though about

whether mentors can provide sufficient attention to all young people in the group and whether this limits the development of the mentor-mentee relationship (Herrera et al., 2002). There are questions, too, about the efficacy of the matching process of mentor to mentees in a group situation, with the suggestion that this is less strong than when done at an individual level (Herrara et al., 2002). DuBois and colleagues (2011) found group mentoring to be effective when compared to one-to-one, and in a comparative study between online one-to-one and group learning for girls interested in STEM, the group mentoring was more successful (Stoeger, et al., 2017).

Other research provides evidence in support of a combination of both group and traditional approaches and the way in which these mutually reinforce the mentoring relationship and act in a synergistic fashion (Pryce et al., 2010). Indeed, Farruggia and colleagues (2011) found that mentoring provision offered one-to-one or mixed was more effective than that provided through groups only.

E-mentoring

A more recent addition to approaches to mentoring has arisen through e-mentoring where the mentor and mentees meet either partially or entirely online (Church-Duplessis, 2020). Some programmes rely entirely on IT for interactions between mentors and mentees; others adopt a blended approach and in some cases, IT is used to supplement face-to-face interactions. Differences are also apparent in whether interactions are mostly synchronous or asynchronous. To date there is limited rigorous evidence about the effectiveness of online mentoring programmes, although it has been argued that online relationships conducted through e-mentoring can be similar to those undertaken face-to-face. Further benefits include greater access to diverse populations given that restrictions of location and time are removed.

As with face-to-face mentoring, e-mentoring programmes may adopt a developmental or instrumental approach, with most in the United States and Canada currently adopting the latter. In addition to the facilitators of face-to-face mentoring provision, specific consideration is needed about the selection of technology, the development of communication channels and ensuring that both mentor and mentee are familiar and comfortable with the technology.

The Collegiate Achievement Mentoring Program (CAMP), based at the University of North Florida, supports K-12 students to see college as an option for the future. College students act as leadership mentors and are paired with young people in high poverty schools. Through the experience of mentoring K-12 students, the collegiate mentors improve their own leadership and career-readiness skills while enhancing college-readiness for mentees. To overcome financial and rural barriers, weekly mentoring sessions are virtual via technology available on the college campus (Ohlson, 2019).

A further illustration comes from a comparative study undertaken in Germany of the effectiveness of one-to-one versus group mentoring provision undertaken online as part of extracurricular provision to encourage participation in STEM. Participants were 347 girls from a high achieving secondary school who were mentored online by female STEM academics for six months. Students received either one-to-one or group mentoring. The analysis looked at STEM-related communication behaviour, STEM-related networking, and changes in intentions in STEM. Girls in the group mentoring conditions wrote more STEM e-mails which contained more STEM words than those receiving one-to-one mentoring. They made more STEM contacts with other participants, had larger STEM networks and showed a significant increase in their elective intentions in STEM after six months. The intentions of students in the one-to-one condition did not change (Stoeger et al., 2017).

Key factors contributing to successful mentorship

Taken together the research into mentoring identifies the following characteristics of provision that have a positive outcome for young people:

- Effective matching of mentor and mentee;
- Fostering a strong mentor-mentee relationship;
- Sustained duration of the relationship;
- Effective training and ongoing support to mentors;
- Provision of structured activities for mentors and mentees, and
- Appropriate evaluation/monitoring of programme implementation.

Together these features inform the design of effective mentoring programmes.

Duration

More prolonged mentoring relationships, over one year, with frequent and consistent meetings that are characterized by a strong emotional bond, are associated with better outcomes (DuBois et al., 2011; Farruggia et al., 2011; Rhodes & DuBois, 2006). By contrast mentoring relationships of short duration or those that end prematurely are associated with negative outcomes (DuBois et al., 2002) which can include a decrease in global self-worth, self-esteem and perceptions of academic competence (Grossman & Rhodes, 2002).

Although there appears to be a consensus about the benefits of mentoring relationships that last for over one year, the reality is that many do not. In an analysis of 35 formal mentoring programmes for secondary students in England, only one programme lasted longer than twelve months (Busse, 2017).

Matching

Mentors and mentees need to be matched appropriately and with thought (DuBois et al., 2002; 2011). Different programmes have used varied criteria as part of the matching process including gender, ethnicity, interests and socioeconomic status. Frequently matching is done on gender and ethnicity in the belief that this enables mentor-mentee pairs to identify with each other more easily through shared similar life experiences (Bisanz et al., 2003; Klinck et al., 2005). It is perhaps surprising then that DuBois et al. (2011) found that matching on race or ethnicity was found to be a predictor of less favourable effects. Rather research suggests that matching mentors and mentees based on similar interests is more important. Mentors who share common interests with their mentee feel closer and more emotionally supportive of their mentee compared with mentors who do not (DuBois et al., 2011; Herrera et al., 2000). Perceptions of similarity have been found to foster higher-quality and longer-term relationships between mentors and young people (Herrera et al., 2000; Madia & Lutz, 2004).

Flexibility and responsiveness are vital to successful mentoring relationships (Grossman et al., 2012). Giving agency to mentees whereby they are enabled to input into and set the agenda for meetings, has been seen to result in more durable relationships (Grossman et al., 2012; Rhodes & DuBois, 2006). This is since the flexibility in the focus of the meeting is more responsive to the changing developmental and emotional needs of the mentee.

Mentor recruitment, training and support

The recruitment of mentors, the training offered, and their ongoing motivation are all factors that contribute to effective programmes (DeWit et al., 2016; DuBois et al., 2011, Wilson et al., 2017). Rhodes et al. (2006) and Pryce (2012) emphasize the importance of attunement - the ability to anticipate a mentee's needs in an empathetic manner whereas Satchwell (2006) focused on qualities such as approachability, enthusiasm, commitment, availability, trustworthiness, maturity, communication skills, respect, and financial stability.

Research draws attention to the importance of training mentors prior to any mentorship activities (Deutsch & Spencer, 2009; DuBois, 2002; King et al., 2002) especially since mentors who are more confident and knowledgeable tend to have greater success (Parra et al., 2002). Evidence also suggests that mentors who receive more training generally spend more time with mentees (Herrera et al., 2000).

Mentors need ongoing support throughout the mentoring relationship. Ongoing training is imperative to sustain mentoring relationships and ensure good-quality relationships (DuBois et al., 2002) and yet at the time of this research, DuBois and colleagues found little evidence of this happening once relationships had begun. Evident too is that opportunities for mentors to discuss issues with other mentors is important. Providing ongoing support also entails supervision of the mentoring relationships and monitoring the

fidelity of programme implementation (DuBois, 2002). It is also an opportunity to communicate guidelines and help manage mentors' expectations (DuBois et al., 2002).

Mentor training has implications for match length, the quality of the mentor-mentee relationship including closeness of the relationship, support, satisfaction and effectiveness as a mentor (Herrera et al., 2013).

Parental involvement

International research (e.g. DuBois et al., 2002; Rhodes et al., 2000) has found that parental support and involvement in mentoring enhanced the effectiveness of programmes. There is evidence, also, to suggest that improved parental relationships were a positive impact of mentoring programmes (Karcher, 2005). Despite this, Farrugia and colleagues (2011) found in their review of mentoring programmes in New Zealand that 50 per cent of programmes had no contact with mentee's families. One suggestion is for programme coordinators to provide regular updates to parents. Indeed, in one US study where parents and mentees received support phone calls on a regular basis, the mentor and mentee met more frequently (Herrera et al., 2013) than without this level of support.

Programme evaluation

Evaluating mentoring provision is important in understanding what is working well or less well for young people and through ongoing data collection and analysis can lead to effective programme improvement (Scannapieco & Painter, 2013). Within this attention needs to be paid to the clarity of the intended outcomes of the mentoring provision, the types of feedback to be gathered and from whom, the use of reliable and valid data collection tools and how findings are shared within the wider community (MENTOR, 2015). Examples of frameworks for evaluation can be found seen in MENTOR (2015) and Taylor et al. (2017).

Often formal evaluation of mentoring provision is lacking. For example, in the review of mentoring programmes in New Zealand, Farrugia and colleagues (2011) reported that only 35 per cent of the programmes had participated in an evaluation to explore the effectiveness of the provision. Even when programmes are evaluated the findings are often not described in sufficient detail to be usefully included in meta-analytical research (DuBois et al., 2011). To add to the research base on mentoring provision, it has been suggested that smaller programmes might benefit from partnering with research organizations to better understand the impact of their provision (LKMco, 2018).

Conclusion

The research evidence indicates that mentoring, when done well and of an appropriate duration, can make a positive difference to young people. Decisions need to be made about the aims of the mentoring programme, whether this is one-to-one or in groups, face-to-face or online, and how provision meets the needs of all young people. There is clear evidence that appropriate matching, sustained training and development for mentors, and meaningful programme evaluation contribute to successful provision.

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3.

Health and Well-being

Introduction

For over twenty years the health and well-being of children and young people has become an increasing concern and focus in many jurisdictions across the world. Alongside this, schools and colleges, policy makers and governments have become aware of the importance of education in developing students' well-being and health in addition to academic outcomes and performance. Evidence shows that health and education are closely connected (Bradley & Greene, 2013; Langford et al., 2014) and that the relationship between the two is synergistic:

> *'The promotion of physical and mental health simultaneously can offer great benefits for children, working dynamically to create a virtuous circle that keeps reinforcing overall health, wellbeing and achievement' (Brooks, 2013 p. 12).*

Academic success has a strong positive impact on children's personal sense of life satisfaction and is linked to higher levels of well-being in adulthood (Chanfrreau et al., 2013). Given the amount of time that students spend in school or college on a day-to-day basis, both are natural settings for promoting health and well-being. The institutional environment, the student-teacher relationship, the level of student engagement and the relationships that students have with their peers are all key factors in the well-being of young people (Choi, 2018). Teachers and those in senior management positions have a key role to play in influencing the development of young people so that they can flourish throughout their lives.

Overall, the literature suggests that:

1. Students with better health and well-being are likely to achieve better academically.
2. Effective social and emotional competencies are associated with greater health and well-being, and better achievement.
3. The culture, ethos and environment of a school or college influences the health and well-being of students and their readiness to learn.
4. A positive association exists between academic attainment and the physical activity levels of students (PHE, 2014, p. 4).

While many risk factors associated with poor well-being, such as stressful life events, parental unemployment, and financial constraints, are difficult to change, protective factors such as positive student-teacher relationships, engagement of activities beyond the classroom and strong social networks are amenable to change. It is therefore incumbent on those involved in the education of young people to make a positive difference.

Prevalence of health and well-being problems

The developmental stage of adolescence marks a period of cognitive, psychosocial and emotional transformation. It is a period of significant turbulence involving developmental changes, social influence and school and college transitions that impact on adolescents' socio-emotional and behavioural functioning (Martinez et al., 2011). These years mark a critical time for young people in the formation of identity, the development of cognitive motivational strategies and social learning, and organizational skills; all of which may have long-term consequences for young people's educational choices, their career aspirations and

lifetime participation (Nurmi, 2004). Adolescence is a time when parental influence and control diminish, more important is the influence of peers and young people's school or college environment. Adolescence is also characterised as a period in which there is an increase in young people undertaking experimental and risk-taking behaviours as part of growing up. Nevertheless, behavioural patterns established during adolescence can have adverse consequences for the future prospects of individuals' health and well-being, and their social and economic outcomes (Viner & Taylor, 2007) since these behaviours track along the lifespan.

Using data from the Millennium Cohort Study (MCS) involving nearly 10,000 individuals across the UK, Fitzsimons and Villadsen (2021) explored risky behaviours when participants were age 17. Fifty-three per cent reported they had engaged in binge drinking by age 17, and 13 per cent reported regular drinking (six or more times in past month). Thirty-one per cent had tried smoking cannabis at least once, and ten per cent had tried harder drugs. In a further MCS study of 17-year-olds (N = 10,103), 16.1 per cent had experienced high psychological distress in the past 30 days, 24.1 per cent had self-harmed in the previous 12 months and 7.4 per cent had attempted suicide (Patalay & Fitzsimons, 2021). Given that three-quarters of lifetime mental illness is first experienced in adolescence, prevention efforts among young people are vital.

The UK is not alone in these rather stark figures. In Australia, Goodsell et al. (2017), in an analysis of the 2017 Young Minds Matter survey of over 6,000 families, showed that mental health disorders affected one in seven school-aged children. Among students aged between 12 and 17, one in 12 reported having self-harmed in the 12 months prior to the survey, and one in 13 had experienced a major depressive disorder. The Danish National Youth Study 2014, a national survey with responses from 75,858 high school and vocational school students, found that that 29 per cent of students reported low life satisfaction, 12 per cent high levels of stress and 9 per cent experienced loneliness (Bonnesen et al., 2020).

A survey among further education staff, undertaken by the Association of Colleges for England (AoC, 2017) highlighted teachers' concerns about the mental health and well-being of their students with 85 per cent of colleges reporting that the number of students with mental health difficulties had significantly increased in the last three years. Respondents were asked to give their opinion about what had influenced this rise: the top three reasons were home circumstances (95%), pressure of social media (87%) and drugs and alcohol (63%) (AoC, 2017).

Approaches to promoting health and well-being

Since the late 1980s there has been a shift in approach to health and well-being from focusing on the behaviour of the individual to a more holistic approach that recognises the wider social, environmental and political influences on health (Langford et al., 2014). Consistent with the ecological-systems perspective (Bronfenbrenner, 2005), this approach sees schools and colleges as a part of the wider community, and well-being as a function of the interactions between various levels of the system, thereby making its promotion a shared responsibility. The strength and efficacy of a whole-school or college approach lies in its holistic approach that emphasizes consistency in policies and practices, and well-being promotion as a shared responsibility of all (Weare & Markham, 2005).

An example of this is seen in the World Health Organisation public health policy with the development of the 'Health Promoting School' (HPS) (WHO, 2006). Here, health is promoted through the whole school or college environment rather than just through 'health education' as part of the curriculum, and continually strengthens its capacity as a healthy setting for living, learning and working conditions (see Table 1).

Table 1: Defining features of a health promoting school

A health promoting school:
• Fosters health and learning with all the measures at its disposal. • Engages health and education officials, teachers, teachers' unions, students, parents, health providers and community leaders in efforts to make the school a healthy place. • Strives to provide a healthy environment, school health education, and school health services along with school/community projects and outreach, health promotion programmes for staff, nutrition and food safety programmes, opportunities for physical education and recreation, and programmes for counselling, social support and mental health promotion. • Implements policies and practices that respect an individual's well-being and dignity, provide multiple opportunities for success, and acknowledge good efforts and intentions as well as personal achievements. • Strives to improve the health of school personnel, families and community members as well as pupils; and works with community leaders to help them understand how the community contributes to, or undermines, health and education.
Health promoting schools focus on:
• Caring for oneself and others • Making healthy decisions and taking control over life's circumstances • Creating conditions that are conducive to health (through policies, services, physical / social conditions) • Building capacities for peace, shelter, education, food, income, a stable ecosystem, equity, social justice, sustainable development. • Preventing leading causes of death, disease and disability: helminths, tobacco use, HIV/AIDS/STDs, sedentary lifestyle, drugs and alcohol, violence and injuries, unhealthy nutrition. • Influencing health-related behaviours: knowledge, beliefs, skills, attitudes, values, support.
Source: https://www.who.int/publications/i/item/9789240029392

In support of the promotion of students' health and well-being the concept of social and emotional learning (SEL), thought to have originated in the US, has gained in prominence as seen in the proliferation of SEL programmes internationally. SEL as a term serves as an umbrella framework for a range of whole institutional approaches. A commonly accepted definition from the Collaborative for Academic, Social and Emotional Learning (CASEL), in the US is:

> *'The process through which children and adults acquire and effectively apply the knowledge, attitudes, and skills necessary to understand and manage emotions, set and achieve positive goals, feel and show empathy for others, establish and maintain positive relationships, and make responsible decisions' (http://casel.org).*

As with the HPS, the CASEL framework (CASEL, 2020) takes a systematic approach that focuses on the integration of SEL through the academic curricula, across the broader contexts of institutional practices and policies and through collaboration with families and community organizations. Underpinning the framework are five core competencies: self-awareness, self-management, social awareness, relationship skills and responsible decision- making.

Research evidence, relating to HPS, SEL and other whole-institutional approaches indicates that they share three interrelated elements that pervade all aspects of the life of a school or college:

1. **Formal health curriculum**

   A formal health curriculum, with sufficient time allocation, is in place to develop the essential knowledge, skills and attitudes that young people need to make informed choices about health and well-being.

2. **Ethos and environment of the school/college**

   A supportive school/college culture, ethos, organization, and environment, including leadership practice, the physical and social environment, policies, and services and how student and staff well-being is promoted through the hidden/informal curriculum.

3. **Engagement with families and the wider community**

   School/college engagement with families, community organizations and outside agencies for consultation and participation to promote consistent support for young people (Langford et al., 2014; St Leger, et al., 2010).

Families and the wider community in which children and young people live have an enormous impact on their health, so community engagement is essential. To achieve this, schools and colleges need to consider the views and opinions of the families and communities they serve and encourage their support and participation in health and well-being-promoting activities. Messages promoted at school or college need to be reinforced within the family and wider community settings if they are to have a meaningful impact on young people's behaviours (Weare, 2015)

Generally, the evidence from several meta-analyses for whole institutional approaches to supporting health and well-being is positive. Well-implemented programmes strengthen social and emotional skills such as stress management and decision-making; enhance attitudes to school or college and higher academic performance (CASEL, 2008; Durlak et al., 2011; Weissberg et al., 2015). Similarly, a meta-analysis of 82 school-based SEL programmes with 97,406 students from the US, Europe and the Asia-Pacific showed that after 18 months, students who participated in the programme demonstrated higher rates of social and emotional competencies, prosocial behaviours and indicators of positive well-being compared to the control group (Taylor et al., 2017).

In a review of the HPS framework by Langford et al. (2014), that involved meta-analysis of randomised control trials, evidence of improvement was found in health including physical activity and fitness, tobacco use, and being bullied; but not in other areas such as alcohol and drug use, violence and mental health.

There are caveats about research into SEL however. Much of the evidence derives from the US, so there are questions about how SEL transfers to other contexts. The whole institutional approach may disguise factors that impact on the success of a programme, in addition to the make-up of individual activities within a programme and how these contribute, or not, to its success. In a review of recent evidence for the Education Endowment Foundation, Wigelsworth et al. (2020) conclude that overall, 'evidence suggests that SEL is important, that it can be taught effectively, but that positive outcomes are dependent on a number of factors we are as yet to fully understand' (p. 5).

National approaches to support health and well-being

Across many jurisdictions internationally, there has been an increased focus on how schools and colleges promote the health and well-being of their students. Specifically educational frameworks with a focus on 21st century skills, such as Curriculum for Excellence (CfE) in Scotland, reflect an interest in the development and wider achievement of the whole child or young person, as is also seen in Scandinavian countries, Australia and Canada.

Meldrum Academy in Scotland was established in 2002 and reached a full cohort of students in 2006. Its approach to health and well-being was strongly influenced by CfE. Student voice is central to the embedding of health and well-being. For instance, young people, called respect ambassadors receive training and then raise awareness of respect, equality, diversity and rights across the entire school. This might include peer mentoring and support, restorative practice or delivering themed assemblies. For older students there is a system of health and well-being young leaders where students are selected each year to drive forwards health and well-being across the school. The young leaders select topics at the start of the year related to health and well-being and arrange activities, events and talks about these. In addition, across the local authority young leaders come together to share ideas with different schools (ODS Consulting, nd).

In Victoria, Australia, the Health and Physical Education learning area focuses on students enhancing their own health as well as the health of others, safety, well-being and physical activity participation. The curriculum is designed around five interrelated concepts:

1. Focus on educative purposes
2. Take a strengths-based approach
3. Value movement
4. Develop health literacy
5. Include a critical inquiry approach (VCCA, 2016).

Of interest is the last proposition, include a critical inquiry approach and how this might be implemented in practice. Take Action, an inquiry approach co-developed by teachers in Melbourne aimed to provide students with an opportunity to critically reflect on physical activity, investigate an area that was important to them and in so doing enhance their capacity for positive change. The programme comprised 12 lessons each lasting about an hour and a half (O'Connor et al., 2016). During the first three sessions students reflected on their own movement and physical activity opportunities, including how these were influenced by personal, social and environmental circumstances. Students then worked in collaborative action research-based groups arising from the three main themes that had emerged in the initial lessons. Findings and ideas for action were presented to stakeholders. While the research identified the need for more support for teachers and students in adopting an inquiry approach, the comment from one student suggests that this approach may be beneficial:

I used to not be really physical, I used to just play games on my lap-top. Until now my mum she kept telling me, 'Oh, Jonathon, just come out and take some fresh air or do something else' . . . but now Take Action has come in and I'm starting to make bigger decisions and practise at home for baseball or at least get more active. (Year 7 male) (O'Connor et al., 2016, p. 212).

Factors contributing to educational environments in support of health and well-being

Whole school/college approach

Given the strong relationships between health and well-being and education, it is not surprising that whole institutional approaches are advocated. This is perhaps especially so given the shift from the well-being of students or staff as an individual concept to one that is premised on an ecological, systemic approach where schools and colleges operate as caring communities for all their members and where there is a more social-embedded conception of health and well-being (Bronfenbrenner, 2005; Cefai & Cavioni, 2014; Ungar, 2012). When a culture of well-being is prioritised across the whole school or college community, positive social norms and behaviour are built between leaders, teachers, non-academic staff and students, and a sense of belonging and inclusivity is woven through everything the educational community does.

Public Health England (2021) for example, outlines eight core principles for a whole school or college approach to mental health and well-being:

1. Leadership and management that supports and champions efforts to promote emotional health and well-being.
2. Curriculum, teaching and learning to promote resilience and support social and emotional learning.
3. Enabling student voice to influence decisions.
4. Staff development to support their own well-being and that of students.
5. Identifying need and monitoring impact of interventions.
6. Working with parents/carers.
7. Targeted support and the ability to make appropriate referrals.
8. An ethos and environment that promotes respect and values diversity (PHE, 2021, p. 7).

Given the multi-faceted nature of health and well-being, the adoption of a whole institutional approach is likely to involve integrating several interventions into an overarching framework (Domitrovich et al., 2010). For instance, in England over 180 colleges have signed up to AoC's Mental Health and Wellbeing Charter (AoC, 2021) and operate programmes that include well-being weeks for students and staff twice a year – often involving external partners such as Mind, workshops and sessions on building resilience, and emotional literacy. Mental health champions support staff and students, quarterly health MOTs are undertaken, and a variety of leisure activities are in place (AoC, 2016, p.10).

College ethos and environment

Underpinning a supportive college and classroom climate and ethos is a sense of connectedness, focus and purpose, respect, positive relationships and communication and valuing diversity. The relationships young people build and develop with their teachers are an important contributor to this (Thapa et al., 2013). Positive relationships with teachers enable the building of rapport, thus facilitating interaction and communication and nurturing students' well-being. These in turn lead to positive behaviour and higher standards since the level of engagement students feel with their school or college is strongly associated with their attainment (Wang & Holcombe, 2010). Through positive relationships students learn about their beliefs, their views of learning

and the values they need to operate well in an academic environment. Effective student–teacher relationships offer help and emotional support with learning and contribute to students' well-being and learning outcomes (Gowing, 2019; Pittman & Richmond, 2007).

Relevant then is how organizational features of a school or college may undermine positive student-teacher relationships. A lack of involvement of students in decision-making can tend some students to feel that they have little stake in their educational community (Jamal et al., 2013). By contrast, involving students in decisions that impact on them can benefit their emotional health and well-being by helping them to feel part of the college and wider community. Furthermore, it may help students to believe more strongly in their own capabilities, including building their knowledge and skills to make healthy choices and developing their independence. Students also benefit through having opportunities to influence decisions, to express their views and to develop strong social networks.

Linked to organization features is consideration of how tutoring/pastoral roles operate within a school or college given the suggestion that separating support for mental health from behaviour management is crucial to support the well-being of young people (White et al., 2017). As reported by White et al., (2017, p. 28) in one college teaching staff had previously acted as personal tutors with the pastoral element added to their role. A consequence was that while some staff were fully engaged in providing support, others were less so. The college redesigned the tutor system by developing the role of progress tutor whose sole responsibility was to provide pastoral support to students. This meant that there was one team providing a consistent approach to support students resulting in higher quality support. An added benefit was that the progress tutors could discuss any issues within the team. Dividing the workload seemed to work well for all staff, although it was important for one person to have a strategic overview.

A further issue relates to the tracking and measuring of health and well-being among students. The research literature is clear: successful approaches to support health and well-being need to be evidence-based. Public Health England (2021), based on National Institute for Health and Care Excellence guidance, recommends that education providers systematically measure and assess young people's social and emotional well-being and use the outcomes of this as the basis for planning activities and evaluating their impact. In broad terms there appear to be three purposes for the measurement and tracking of students' emotional health and well-being:

1. To provide a snapshot of the strengths and challenges that students face and to use this evidence to target support and to monitor the impact of this;
2. To support schools and colleges to evaluate their interventions;
3. To identify schools who might benefit from specific support (PHE, 2016).

These more formal measures can also be used to inform commissioning decisions at the level of the institution or within a wider community.

Several toolkits are in existence to support schools and colleges in thinking about how they gather evidence to inform approaches to supporting student well-being. In New South Wales, Australia, the Wellbeing for School Excellence Evaluation Support Tool (NSW Government, 2020) is an overarching resource that assists schools in their work as they support all students to connect, succeed and thrive. It provides a comprehensive set of sources of evidence for institutions to evaluate their efforts as part of a self-assessment process. Public Health England has published a toolkit for measuring and monitoring children and young people's mental well-being which includes practice examples coded according to snapshot, identification and evaluation in addition to a substantial compendium of possible mental health and well-being instruments (PHE, 2016). In addition, AoC has developed a Wellbeing and Mental Health - Self Assessment Tool for Colleges (AoC, 2016).

Physical activity and extra-curricular activities

The evidence suggests that participation in club activities leads to better academic performance. Students involved in sports – particularly team sports (Beets et al., 2009) – had more positive teacher ratings of social competence and higher levels of psychosocial maturity (Fletcher et al., 2003). It is also likely that structured leisure activities help students to improve educational outcomes through avoidance of risky or anti-social behaviours, such as drug and alcohol use (Eccles et al., 2003). Providing young people with a choice about the range of activities and sports that they engage in is important. Successful programmes foster an inclusive approach, employ specialist teachers and avoid stigmatizing young people who may have been inactive previously (Brooks, 2013).

The Schools on the Move programme in Finland is a national programme to make school days more active and enjoyable through increasing levels of physical activity and to make stronger links between physical activity and learning. Like other initiatives to promote physical activity, a key aim was to enable children and young people to undertake one hour of physical activity each day – before, during or after the school day. While a guidance framework, training and resources were provided, the approach was bottom-up with schools and municipalities making decisions about how to promote the initiative. From the start students were engaged in the decision-making about the types of activities implemented. Activities included altering the school day to include physical activity-breaks, training students to organize breaktime activities for their peers; developing facilities so that more students could take part; promoting a physical commute to school and employing activity-based methods and less sedentary time during 'normal' lessons (McMullen et al., 2015). As part of the latter alternative approaches to chair-based sedentary classroom work included standing up to learn and sitting on balance balls; and breaking up the lesson to include short activity bursts such as exercise and stretching. Community engagement was also in evidence with activities in schools organized by associations, local parishes, other educational establishments and private companies (Aira & Kämppi; 2017).

These activities enable young people to widen their social networks and friendship groups either in-person or virtually which can serve as a protective factor to help students cope with adverse situations. Socialising with friends outside school or college is positively associated with life satisfaction, sense of belonging at school or college, happiness and self-esteem (OECD, 2017). Adolescents who self-report high quality social networks also report better health and overall well-being. In developing extra-curricular activities staff need to be mindful about cost – young people's access to extracurricular activities can depend on where they live and the family budget.

Community links and parental engagement

Healthy connections between parents and their child act as a protective factor for students' social and emotional well-being. Parental interest in children's activities at school is correlated with children's higher academic motivation and increased satisfaction with life (OECD, 2017). Children who report that their parents show an interest in their educational activities are more likely to be satisfied with life. They are also much less likely to report feeling lonely at school.

Schools and colleges also engage with many local resources in the community whether this be in relation to culture for example libraries and museums, community and sports organizations or local charities. Links are apparent with entrepreneurship and youth social action with young people taking part in community service or fundraising for local charities. Rogers et al. (2020) report on one FE college that had its own trading company where students could bid for business. This gave the students the opportunity to gain earned work opportunities. For instance, in the creative and digital space anyone from the community, any organization or company could apply for a piece of work to be done. The students then do a pitch and quote for the work. One group of successful students had created apps for the NHS. Another group had worked on an advertising agency commission for a piece of artwork for new transport provision

Schools and colleges also develop parent and community connections through adult learning programmes. Paralowie R-12 school in Adelaide, Australia, for instance, hosts a community centre in which parents can develop new skills and develop confidence through a range of programmes, for example IT skills, parenting programmes skills, conversation classes, cooking healthy food, budgeting and career pathways. This enables parents and the community to develop stronger connections with the school (Education Services Australia, 2020).

Partnerships with wider agencies at a community or national level are also important in enabling schools and colleges to support the health and well-being of their students. For example, colleges and schools have used the Amy Winehouse Resilience Programme to provide alcohol and drugs education to students. Delivered through assemblies and workshops as part of a college tutorial programme for all students, the resilience programme uses interactive discussions and the use of life stories to focus on peer pressure, risky behaviour and self-esteem around drug and alcohol use (White et al., 2017).

Promoting staff well-being and opportunities for further professional development

Schools and colleges can be challenging environments for staff with many possible stressors including heavy workloads, dealing with student behavioural issues, competing demands, long hours, and targets, inspections and rising expectations. England, for example, has one of the most data-driven systems of school accountability in the world (Lough, 2019) and at the same time experiences one of the lowest levels of teacher job satisfaction and well-being (Jerrim & Sims, 2019).

Promoting staff health and well-being is an integral part of the whole school or college approach to emotional health and well-being (PHE, 2021; Weare, 2015). In a recent review of the literature in England, six themes emerged as supporting staff well-being:

1. Engagement from senior leaders;
2. Implementing whole school/college approaches,
3. Provision of support, mentoring and training;
4. Fostering resilience and mindfulness;
5. Promoting healthy and active lifestyles, and
6. Ensuring a positive environment, including signposting to other resources (CooperGibson, 2019, p. 5).

Where effective consideration is given to staff well-being, the evidence suggests that there are benefits for schools and colleges, in addition to individual staff. These include reduced staff absences from work, better stress management and the development of healthy coping strategies, a positive impact on teaching and learning in terms of better productivity and teaching, improved job satisfaction supporting retention and staff feeling valued and supported with the educational community (Anna Freud National Centre for Children and Families, 2020; Greenberg & Jennings, 2009).

Barriers to the promotion of staff well-being include: the perceived stigma associated with poor well-being and a subsequent desire for confidentiality among individual members of staff, concerns that colleagues would be aware of (and judge) participation in any well-being activities, the timings of interventions being inconvenient, the perceived burden that may be placed on a colleague offering peer support, and a general lack of awareness of the support or resources available (CooperGibson, 2019, p. 5-6).

Engagement and commitment of senior leadership teams is a key aspect of developing an institutional culture and ethos that is supportive of staff well-being. This includes senior leaders modelling best practice themselves, for example encouraging and taking regular breaks, being mindful of excessive workloads, communicating clearly with staff about any changes that might be taking place, fostering a sense of community by providing opportunities for staff to get together including non-work activities, keeping staff well-being and development on the agenda and providing opportunities for staff to feedback on concerns or ideas about supporting staff well-being (Anna Freud National Centre for Children and Families, 2020; AoC, 2016; CooperGibson, 2019).

As part of staff well-being, it is also important that opportunities for development and professional learning enable staff to understand the risk factors to well-being, and to help students develop the resilience to overcome adverse circumstances (Weare, 2015). This might include developing the knowledge and understanding of the challenges posed by new technologies, especially social media, as highlighted earlier. Training is also needed for all staff, not just those in teaching roles, so that they can signpost students directly to the right support.

A collaborative approach is essential to the effectiveness of well-being education programmes addressing social and mental health (Cahill et al., 2019; Durlak et al., 2011). Activities could include class discussions, debates, case analysis, brainstorming, small working groups, peer teaching, co-writing, co-creating projects, educational games and simulations, storytelling, audio and visual laboratories (e.g. arts, music, theatre, dance). Through these types of activities students develop critical thinking and social and personal capabilities that enable them to foster the skills to carry choices into action (Cahill et al., 2014). Role plays for example support students to engage with a specific dilemma, to rehearse help-seeking or refusal skills about choices, to explore the social norms influencing those choices and to model new possibilities (Cahill, 2003; Cahill et al., 2014). Evidence suggests that staff may need support with this (O'Connor et al., 2016). Students also need opportunities to reflect on the health/well-being learning experiences from different points of view, to enable them to gain the transversal skills they need in the real life (see Take Action above).

Conclusion

Colleges and schools have an important role to play in supporting the health and well-being of their students. To do this effectively requires a whole institutional approach that is sustained and embedded in the culture and curriculum across an institution over time. This includes inclusive institutional policies where students and staff are afforded meaningful opportunities for signposting and support; pedagogic approaches that embrace collaborative approaches to teaching and learning including role plays and peer to peer learning; the fostering of student voice and community and parental engagement. Important too, is that institutions foster an approach to health and well-being that includes and recognizes the needs of teaching and non-teaching staff.

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4.

Enrichment and Global Citizenship Education

Introduction

Enrichment activities cover many different areas from sport, to volunteering, to lecture programmes, and like citizenship is seen as a way to broaden the educational offer for young people beyond the qualifications they are studying. It is also seen as a way to support young people in preparing for their future employment and careers. These activities may be run in-house, or through other organization, and involve local and national partnerships both at home and abroad.

The Association of Colleges (AoC) view enrichment activity as falling under seven themes:

1. Sport, fitness, physical and mental health and well-being
2. Citizenship, political literacy, leadership and advocacy
3. Creative and performing arts and cultural literacy
4. Language and literacy
5. Enterprise and economic literacy
6. Contributing to the community
7. Understanding the world, global issues and international links (AoC, 2019, p.2).

Within this context, global citizenship education (GCE) is evident in citizenship, political literacy, leadership and advocacy as well as in understanding the world, global issues and international links. In this series of literature reviews, health and well-being, careers education and employment have been covered elsewhere. The focus here is on enterprise and entrepreneurship, GCE and youth social action.

A common theme running through all these activities is the strong link with 21st century skills and capabilities. All require pedagogical approaches that foster student agency through experiential learning. Evidence from the research indicates that professional development for teachers is essential, especially since teachers will have very different experiences and backgrounds. To use GCE as an example, Andreotti (2012) states:

> *A teacher who is not a global citizen and global learner cannot teach Global Citizenship effectively. In other words, a teacher who has not experienced global learning... will find it very difficult to practice global education grounded in an ethics of solidarity (p. 25).*

Enrichment

Personal and social development and enrichment activity is strongly embedded in the work of further education (FE) colleges in the UK. Enrichment programmes in FE can involve tutorials on cross-curricular themes, work placements and other college wide activities or events, or working towards alternative qualifications, such as youth work awards. Many FE colleges also offer an Extended Project Qualification (EPQ), which requires learners to research and write up an issue in depth. It can have a very practical focus, based on voluntary work or other activities outside college, or a more academic focus.

The AoC member college's survey undertaken in 2019 found that 95 per or more of colleges were offering:

- Careers and progression guidance (100%)
- Learning about British values, extremism, exploitation and staying safe, including e-safety (100%)
- Marking awareness days or months, such as Black History Month (99%)
- Educating about physical and sexual health, mental health and well-being (96%)
- Charity fundraising (96%) (AoC, 2019, p. 4).

In addition, the following were offered by over 75 per cent of colleges:

- Opportunities for competitive sports (89%) and non-competitive physical activity (90%)
- Citizenship education, e.g. in human rights, politics, democracy and the law (90%)
- Student societies and groups such as a women's group, LGBTQ and friends (90%)
- Learning life skills (89%)
- Opportunities for volunteering and Youth Social Action (89%)
- A lecture programme with external speakers (77%) (AoC, 2019, p. 4).

Similarly in schools in England, Bertram et al. (2017), highlighted a varied mix of activities which made up enrichment including sports clubs, creative arts, academic subject-related clubs, volunteering and work experience. Generally, enrichment activities are seen as an opportunity for expanding students' horizons, as well as providing them with opportunities they may not necessarily have access to, outside of the school or college context in order to support the holistic development of an individual.

A defining feature of enrichment activities is that they are voluntary – students select activities that they would like to engage in. In addition, research indicates that the provision of enrichment activities is often dependent on staff expertise and interest (Bertram et al., 2017).

The benefits of enrichment activities

Evidence about the benefits of enrichment activities comes largely from the US, although there is growing interest in research in this area, for instance, in Europe (Fischer et al., 2014) Canada (Guèvremont, et al., 2014) and Australia (Blomfield & Barber, 2010). A meta-analysis undertaken by Durlak and colleagues in the US (2010) indicated that enrichment activities positively influence the development of social, physical and intellectual skills.

Several studies have identified an association between engagement in enrichment activities and better academic achievement and higher academic aspirations (Blomfield & Barber, 2010; Mahoney et al., 2003; Pitts, 2013), although this is not always the case (Farb & Matjasko, 2012). In addition, Blomfield and Barber identified a positive link between activity participation and educational outcomes that endured throughout much of young adulthood and was present eight years after high school ended (2010, p. 115).

Through participation in enrichment activities' adolescents can explore their identity, develop initiative, and develop positive peer relationships and interpersonal competencies (Mahoney et al., 2003; Pitts, 2013). Thus enrichment activities are seen to support the social and emotional development of young people (Schaefer

et al., 2011). Fredricks and Eccles (2006) noted that participating in a variety of structured activities provided adolescents with opportunities to develop a range of competencies and interests while giving them exposure to different experiences and people. In doing so young people may develop wider social networks.

Given that many enrichment activities are run by teachers, they offer a range of different social interactions between teachers and students, their peers and others, which may have an impact on the experiences of young people in school or college. Research also suggests that engaging young people in enrichment activities can be a means to enhance feelings of belonging within the school or college community (Blomfield & Barber, 2010; Martinez et al., 2016; Stokvis, 2009). There are also suggestions that enrichment activities enable students to manage stress too (Adeyemo, 2010; Esenturk et al., 2016).

Additional benefits are seen in relation to developing employability skills, for example time management (Won & Han, 2010). Among undergraduate students, participation in enrichment activities was influenced by students' desire to capitalise on opportunities for skill development with regard to future employability (Roulin & Bangerter, 2013; Thompson et al., 2013). It has also been suggested that high school students who participate in enrichment activities demonstrate discipline and hard work when they enter the workplace (Ebie, 2005).

From a theoretical perspective Bradley and Conway (2016) proposed a dual step transfer model in which both sport and non-sport activities could confer academic achievement benefits because of their potential to influence the development of non-cognitive skills. They argued that successes achieved in sport or music can contribute to the development of self-concept and self-efficacy. More broadly, this has a positive impact on motivational-social skills, which are then credited with promoting learning and academic achievement in the school or college context.

Despite the overall benefits of engaging in enrichment activities, there are questions about the extent that these are open to all students. Many studies comment on the lack of participation from students of lower socioeconomic status (SES) and there is evidence that this continues to impact on lower SES status students at university. Bathmaker et al. (2013) found that students who did not engage in any extra-curricular activities were entirely from working-class backgrounds; consequently, they missed opportunities to develop new social networks, create links and develop skills that could have assisted career progression.

Enterprise and entrepreneurship

The term entrepreneurship derived from the economic sector and in its narrowest and most traditional understanding relates almost solely to business, encompassing how people learn to start up and operate an enterprise. Since then, conceptions of entrepreneurship have broadened to include the process of developing the skills and attributes or 'mindset' associated with entrepreneurial activity. Approaches to entrepreneurship education seem to mirror these different definitions, as suggested by Van Dilk and Mensch (2017) and Gibb (2005) who distinguished between educational approaches that taught about entrepreneurship – to prepare future entrepreneurs, provided education about entrepreneurship – content based for example through knowledge sharing activities such as guest speakers, or learning through entrepreneurship – a process driven approach. In Sweden, for instance, the curriculum embraces both a narrow or broad definition of entrepreneurship education – both the knowledge to start a company and more general skills and attributes (Fejes et al., 2019). A consequence of the different definitions is that it compounds challenges for effective pedagogic approaches.

In many countries, the development of entrepreneurship and entrepreneurship education is seen of key importance within upper secondary education and is strongly linked to 21st century skills, such as critical and creative thinking, problem-solving, communication and collaboration and digital literacy (Bacigalupo, et al., 2016; Foundation for Young Australians, 2016; World Economic Forum, 2016). This is in addition to developing non-cognitive skills such as teamwork and self-confidence. In Australia, enterprise education is linked to their overarching educational framework of general capabilities, specifically critical and creative thinking and personal and social capability. In Sweden, all upper-secondary schools have been required to include entrepreneurship education since 2011.

Distinctive to FE, given the large size of colleges and the high level of industry and technical equipment on site, is how FE colleges can become anchor institutions in their locality often in support of community regeneration and social cohesion. Irwin (2019), for example, provides case study illustrations of the work undertaken by Belfast Metropolitan College (BMC) and the South Eastern Regional College (SERC) in Northern Ireland. At BMC the Business Development Team works with many business partners and is dedicated to enterprise, economic development and employability. In addition to a large portfolio of programmes and services including bespoke training, the business incubation suite is a unique, modern hub promoting innovation and start-up, as well as facilitating the needs of established organisations (BMC, nd). At SERC, in an innovative approach to college induction, students work on enterprise activities where problems are sourced from local companies who are keen to have new ideas presented to them.

The Paradigm Shifters: Entrepreneurial Learning in Schools initiative involved 21 government secondary schools in New South Wales and Victoria, Australia (Anderson et al., 2017) and was underpinned by three principles:

1. Develop more personalised education experiences, so each person can pursue passions and talents to excel in unique ways.
2. Engage in creative and entrepreneurial product-oriented learning experiences that can, in authentic ways, benefit local and global communities.
3. Cultivate and prototype new approaches, processes and/or products (ibid, p. 20).

Working in school action teams, consisting of a core group of students (4–20) and one or two teachers, students investigated and co-designed responses to an issue or problem that they had identified. Community focused projects included IT sessions for seniors, projects related to local environmental issues and potential solutions, presenting findings to local government, and developing prototypes of products with the school's existing regional industry partner to identify new areas of market opportunity and potentially new jobs to overcome a lack of job opportunities in the areas. Activities to address school-based concerns included building a prototype website platform for students to build their own assignments, creating better opportunities for engaging with their learning experience and redesigning the library as a prototype for students to identify and redesign future learning spaces at school. Over a period of 12 months students developed their prototypes, sharing their ideas with other students and schools culminating in a product in addition to a video and poster of their entrepreneurial journey (Anderson et al., 2017).

Three factors contributed to the success of the illustrations provided: a leadership culture that supports experimentation, strong community and industry networks that are founded on trusting relationships and pedagogic approaches that foster and enable student agency. Challenges occurred where teachers were unable to adapt to the facilitatory approaches necessitated by enquiry-based learning and where they were given insufficient time for the project.

Global citizenship education

GCE can be defined as 'an approach to education that prioritises a global dimension' (Bentall et al., 2014, p. 624). It aims to prepare young people to live in a globalised, interconnected world and enable them to respond to global challenges whilst advocating for social justice for all. Done well, it is seen to enable students to learn about the value of reflective openness to new people, ideas, values and practices, to develop greater intercultural understanding and sensitivity and demonstrate a genuine concern for other human beings beyond local and national boundaries.

GCE is a contested space. Policies and approaches vary from country to country, there are different interpretations of GCE because of differing national contexts and perspectives and this is reflected in the variety of approaches to GCE being taken in schools and colleges (Bourn, 2016; UNESCO, 2014). In Europe, the main approach is on the acquisition of narrow economic skills with some examples of the promotion of universal values, and a few taking 'a more critical pedagogical approach' that encourages both understanding and active social engagement with global issues (Bourn, 2016, p. 28). GCE is also related to other aspects of education including sustainable development, civics, human rights and peace education.

One of the ways of incorporating a global dimension in the curriculum is by establishing international links that might include visits to partner countries, exchange programmes for students and teachers, shared educational projects or digital partnerships. Leonard (2014) suggests that the initiatives schools or colleges develop lie along a continuum from a 'link' to a 'partnership', where links are often short term and not embedded in the wider curriculum, and partnerships are longer term and integrated across different subjects. To be effective, partnerships require long-term institutional investment so they focus on mutual learning, as well as establishing a critical literacy of global issues: this rarely happens in the UK (Blum et al., 2017).

Evaluations of school or college partnerships have demonstrated some positive influence on the development of good global citizenship since partnerships help in motivating educational institutions to incorporate global learning into their teaching programme (Bentall et al., 2014). For instance, in looking at the impact of the Global School Partnership programme teachers reported positive impacts on students' understanding of and respect for people from developing countries; on knowledge of global issues; on attitudes towards inter-cultural differences and on awareness of students' impact on the world (Sizmur et al., 2011).

One of the repeated concerns raised in the literature is where schools and colleges view partnerships more as a charitable donor-recipient relationship, rather than one of mutual learning (Bourn & Cara, 2013). A negative impact of this is the promotion of stereotypes of poverty and cultures along with the notion that students will 'help' or 'change' a community (Arts, 2020). Similarly, research undertaken into the International Baccalaureate warned that one off celebrations and activities, for example, international days and food tastings, should be treated with care given the risk of stereotyping. Longer term more sustained and authentic experiences should be considered (Barratt Hacking et al., 2016).

Enabling teachers to develop a stronger sense of critical reflection, and thereby their students, is one way to address this. Bentall et al. (2014) showed that teachers who took part in a global partnership, especially if they travelled to the partner country, used their experience to inform their teaching. This enhanced teachers' commitment to global learning as *'... their first-hand experience of a developing country, particularly through the partnerships, gave them a strong desire to involve their learners in understanding and making a difference to those communities the colleges were associated with'* (Bentall et al., 2014, p. 631). These first-hand experiences motivated the students and the teachers felt they had more credibility and authority (Bentall et al., 2014).

In Scotland Global Citizenship has a high profile within Curriculum for Excellence (CfE) and is about everyone recognizing responsibilities towards each other and the wider world. Of interest then is the Scotland-Malawi Partnership which aimed to develop skills in both countries, based on principles of equality and reciprocity. It encouraged schools to organise shared educational projects, for instance about health and well-being or the environment, as well as reciprocal visits or support to the partner school with learning materials, clothes or the building of classrooms (MacKenzie et al., 2016). Teachers from both Scotland and Malawi appreciated the partnerships and felt that these presented valuable learning opportunities for students to make personal connections with different cultures and to engage with global development issues. Teachers from Malawi based on a small survey response (N=20) reported a range of benefits including shared knowledge to improve education, being engaged in peer-to-peer communication, and funds and resources to support the schools (Arts, 2020). And yet, issues around power imbalances remained given the undeniable fact that Scottish schools are resource rich and most often their Malawi partners are resource poor (Bourn & Cara, 2013).

The International Baccalaureate Diploma Programme (IBDP) has a specific focus on the promotion of intercultural awareness, international understanding and world peace (Doherty, 2009; Drake, 2004), which have been described by the International Baccalaureate Organisation (IBO) as international mindedness (Singh & Qi, 2013). As part of the programme IBDP students are required to undertake an extended reflective project which often involves consideration of global issues and more recently an interdisciplinary world studies extended essay was introduced as an option. This encourages students to reflect on the world today in relation to issues such as the global food crisis, climate change, terrorism, energy security, migration, global health, technology and cultural exchange (IBO, nd).

Creativity, Activity, Service (CAS) is a compulsory part of the IBDP curriculum and requires students to take part in a range of purposeful activities and at least one project. The three strands are described as:

- **Creativity:** exploring and extending ideas leading to an original or interpretive product or performance
- **Activity:** physical exertion contributing to a healthy lifestyle
- **Service:** collaborative and reciprocal engagement with the community in response to an authentic need (IBO, 2015, p.1).

One of the seven CAS learning outcomes specifically focuses on engagement with issues of global significance. Students are required to participate in CAS regularly for at least 18 months and over this time engage in a reasonable balance of creativity, activity and service. Students might work on activities within one strand for instance participating in sports teams and training sessions under activity, or combine strands, so for example students might plan and participate in the planning and maintenance of a garden for members of the local community through combining service and activity (IBO, 2015, p. 2).

A large-scale online survey of current IBDP students (N = 8,876) and IBDP alumni (903) suggests that students find CAS worthwhile which is important given that CAS does not contribute to the overall IBDP points score. Across both groups, evidence indicated that CAS participation supported the development of transferable skills such as enhancing communication and collaboration, becoming more communicative, and a willingness to accept new roles and challenges (Hayden et al., 2020). Less clear was the extent to which CAS supported students to become more aware of responsibilities to the environment, internationally minded, critical in their thinking and curious and questioning. Noteworthy is that responses from alumni were lower than students for the statements about global awareness and environmental responsibilities raising questions about the longer-term success of the IBDP in relation to GCE (Hayden et al., 2020).

In some instances, work undertaken within CAS develops into longer term partnerships as in the illustration that follows. In one Indonesian International IB school CAS involves partnerships with the local community and residents of the local shanty communities. Through this a small school for local children (25 children) was set up that is managed by the IB students who assume responsibility for all aspects of the school through their CAS work e.g. accounts. In addition, IB teachers attend the school as part of their induction. The school serves the most vulnerable children from the Kampung who have spent their previous lives begging or working on the rubbish tips. Now a sustainable project, the school employs a gardener, two teachers and a cook/helper from the Kampung itself (Barratt Hacking et al., 2016, p. 101).

Overall, the evidence suggests that to be effective GCE needs to be fully embedded across schools or colleges, viewed as a priority and teachers need to have received professional development. It is apparent that young people are interested in GCE and do want to make a difference to the world (see for example, Bourn, 2016), yet there remains limited research about how the implementation of GCE in schools and colleges impacts on the breadth and depth of student learning about global issues (Arts, 2020; Buchanan et al., 2018).

Youth social action

The notion that young people should be involved in decisions that impact on their lives has become more central in government policies and initiatives for some time. In the UK this was manifest in David Cameron's Big Society (Evans, 2011) and the establishment of the cross-sector, cross-party #iwill campaign to promote youth social action. At that time, it was felt that young people in the UK were not sufficiently engaged in civic activities such as volunteering and social action. Alongside this runs a concern about how young people are disenfranchised from decision-making processes. For instance, in Australia drawing on extensive consultation with over 7,000 participants, only seven per cent of young people aged 12 to 25 felt that they are represented in current political systems (UN Youth Australia, 2019).

Youth social action involves children and young people undertaking practical action in the service of others (Kirkman et al., 2016). It aims to build connections across social and generational boundaries, bring together communities, and in so doing shape a new generation defined by social leadership. Youth social action is an important example of community connected learning given the perceived dual benefits of this activity. At one level research suggests that participants benefit from developing wider skills, increased self-confidence and life opportunities and at the other end, society benefits from meaningful solutions to community or social problems (Birdwell et al., 2015). As such, youth social action in England is now seen as a significant part of contributing to careers education in addition to its benefits on the local community and beyond (Birdwell et al., 2015). Social action takes many forms whether formal or informal activities for example volunteering, fundraising, giving time to a charity of a cause, mentoring, supporting people, helping improve the local area, campaigning for social causes and involvement in young advisor groups (Bratsa et al., 2020). In the most recent National Youth Social Action Survey (Bratsa et al., 2020), young people were keen to make a difference to society, 88 per cent of respondents cared about making the world a better place and 74 per cent believed they could make a difference.

In England, the Department for Education (DfE) encourages providers of 16–19 education to incorporate youth social action into study programmes alongside other work experience (DfE, 2018). Underpinning youth social action in the UK is a quality framework developed by the Institute for Volunteering Research and The Young Foundation. Within this youth social action is seen as having six underlying principles:

1. Must be youth-led,
2. Be challenging the young person's capabilities,
3. Have a clear social impact for the community,
4. Allow progression to other opportunities,
5. Be embedded in a young person's life and
6. Enable reflection about the value of the activities (DfE, 2018).

At East Kent College in England, youth social action is viewed as being as important as students' work experience because beyond the employability element, it develops their ability to accept responsibility for their behaviour, show initiative, and to understand how they can contribute positively to the lives of those living and working in the locality of the college and society more widely. All students work on a social action project during the last week of each term. The college employs a Community Project Co-ordinator who is responsible for researching local organizations that have projects that can link with specific curriculum areas. The role supports the curriculum staff in organizing the activity and capturing partner and student feedback. Community partners provide students with a brief which they work to. The community partners are asked to feedback on the students' behaviour and professionalism. Examples include students working through their half-term to re-vamp two large classrooms used by the local community. Other students hosted a murder mystery evening at a local junior school - they provided a two-course meal with drinks and games, and the teachers at the school acted out the play. The money raised went towards the materials needed to build an outdoor stage at the school. The students built the stage for the school on their volunteering days (AoC, nd).

An interesting collaborative project using digital technology, 'Youth Booth' culminated in a visual exhibition that showcased the collective work produced by 10 young people in Victoria, Australia (Grové, 2020). The exhibition aimed to 1) highlight the work of young people in four participatory, collaborative workshops; 2) present ways in which participatory visual methodologies can be used to support the rights and perspectives of young people; 3) raise awareness of the need to build on the perspectives of young people to foster more inclusive communities; and 4) connect young people with their school communities. At the end of the exhibition, the young people also voiced a call to action. Key messages included: the impact of poor mental

health, study stress and expectation, living in a world of social media influencers, being digitally savvy and the effects of climate change.

Internationally, students on the International Baccalaureate Career-related Programme (IBCP) undertake service learning as part of their qualification. Naturally, there is some crossover here with the concepts behind youth social action and volunteering. Research undertaken by Behle et al. (2015) into the IBCP programme provides some helpful insights into the activities undertaken. For instance, one young person had undertaken 50 hours of community service at Oxfam and helped out at a nearby youth centre. Another student spoke of starting a food programme in the school with a fellow classmate. Uneaten food that was salvageable was put into boxes and taken to a local shelter (Behle et al., 2015). In a more extended example, a student spoke about how a local business had donated computers to the school. Students, mostly from the IBCP, worked together to repair the computers and then donated them to people in the community. In addition, they brought the people into the school to teach them how to use the computers and to set them up when they were home (Behle et al., p. 29).

Evidence suggests that engagement with youth social action can enable young people to develop non-cognitive skills such as empathy, resilience and perseverance, increases self-belief in gaining employment in the future and enhances their self-confidence and well-being (Bratsa et al., 2020; Kirkman et al., 2016). Research also indicates that young people who participate in social action programmes are motivated to contribute to further social action activity (Kirkman et al., 2016). Of concern is that young people from socioeconomically disadvantaged backgrounds are still less likely to take part in youth social action (Pye & Michelmore, 2016).

Pedagogic approaches

A common theme across enrichment, youth social action and GCE is the need for flexible, adaptive pedagogic approaches that are premised on co-operative, experiential learning, project-based learning and a whole institutional approach. Implicit within this is the notion that teachers and students go through cycles of experience and reflection (e.g. Kolb, 1984). In relation to GCE, for example, McGladdery and Lubbe (2017) suggest that reflection should be part of any visit since pre- and post-trip discussions can increase global learning. It is also apparent that teaching about climate change and global poverty for example, are complex issues that frequently lack simple solutions (Bourn, 2016).

Relating to pedagogical approaches is the importance of teacher dispositions and experience. Rushkovaara and Pihkala (2013) in a study of 521 teachers in Finland found that the perception teachers had of their own entrepreneurship education skills was closely connected to the implementation of entrepreneurship education. Teachers who self-reported that they had no entrepreneurship education skills tended to employ discussions and ready-made materials in their lessons, with little evidence of more demanding project work and entrepreneurship games. Vocational teachers in upper-secondary school used a wider range of methods than their counterparts in higher education preparatory programmes or teachers in compulsory school. Similarly, with GCE Bourn (2014) highlights that developing partnerships can give teachers the opportunity to reflect on their own assumptions, views and values, which would enable them to encourage reflective practice in their students.

Advances in digital technology can also enhance approaches to youth social action, enterprise and GCE. For example, through online collaboration students in different parts of the world can engage in digital storytelling by blending personal narratives with multimedia context (e.g. voice-overs, photos, video clips and music) (Lambert, 2013). Lynch and Fleming (2007) suggest that the *'flexible and dynamic nature of digital storytelling, which encapsulates aural, visual and sensory elements, utilises the multitude of cognitive*

processes that underpin learning-from verbal linguistic to spatial, musical, interpersonal, intrapersonal, naturalist and bodily-kinaesthetic' (p. 7).

For example, Mackay (2019) provides an account of a six-week digital storytelling project, 'Indigenous Stories, Stories of Place' that encouraged Indigenous high school students in Queensland to share stories about their lives and culture – the stories can be viewed here: https://vimeo.com/album/4015571. The Multimodal Stories for Language and Cultural Exchange involved middle school students in Australia and China working together to create digital stories about their everyday lives and local cultures (Pegrum et al., 2014).

Whether referring to GCE, youth social action or entrepreneurship, teachers need to expose students to a range of viewpoints and develop approaches that lead young people to question dominant assumptions. This requires teachers to have the skills to engage students in critical reflection, dialogue and engagement that moves beyond the transmission of knowledge and considers different world views (Bourn, 2016; Wright, 2011).

Conclusion

Enrichment activities including GCE, enterprise and entrepreneurship and youth social action broaden the experiences of young people while in education and support the development of social, physical and intellectual skills. Evidence suggests that they enable young people to develop wider social networks and support the development of transferable skills.

Young people are engaged with the world that they live in and yet inequalities of access are seen across many areas of enrichment. The youth social action participation gap mirrors socio-economic inequalities seen in access to enrichment opportunities with recent estimates showing 51 per cent vs. 32 per cent for social action and 66 per cent vs. 46 per cent for extra-curricular involvement between the most and least affluent young people (Ipsos Mori, 2018; Sutton Trust, 2017). Efforts to embed enrichment activities within educational institutions need to take proactive steps to ensure that all young people can participate.

Like other literature reviews in this series facilitatory pedagogic approaches that foster enquiry-based learning underpin effective practice. Pertinent here is the importance of teacher dispositions and experience especially in relation to GCE and entrepreneurship.

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5.

Next Steps into Employment, Further and Higher Education

Introduction

Where careers education, information, advice and guidance (CEIAG) work well, then the provision of high quality, impartial, accessible, and personalised advice is key to supporting transitions into education, training and employment (Hooley et al., 2012; Keele, 2020). Effective careers education can also result in a range of other positive outcomes for young people including the promotion of motivation and positive attitudes towards learning (Harkins, 2001) and enhanced self-awareness (Palladino Schultheiss, 2005), in addition to acting as a tool for promoting social equity (Archer et al., 2014) and social mobility (Hutchinson, 2012; OECD, 2004). Problematic then is that internationally there are concerns about the quality of CEIAG (e.g. Australia: Gonski et al., 2018, Canada: Connelly et al., 2013, and the US: Jacob, 2017). Provision varies across schools and colleges in terms of quality and quantity and the extent that careers education is viewed as a priority. It often reflects old paradigms of work and tends to focus on subjects and courses that follow a linear pathway rather than encouraging young people to take a broader career outlook (Gonski, et al., 2018). Enabling young people to make the right choices is central to successful transitions into higher education (HE), training or work. High quality guidance can lessen the risk of students' dissatisfaction with their choice and thereby reduce the likelihood of them dropping out (Haynes et al., 2013; Simm et al., 2007).

In a post-Covid world successful transitions for young people will be even harder. Young people are particularly disadvantaged since they tend to work in the sectors hit hardest by the pandemic e.g. hospitality, leisure and tourism. Apprenticeships are harder to access for young people and the latest data for the UK shows the sharpest quarterly rise in almost a decade of 16- to 24-year-olds not in education, employment or training (NEET). NEETs rose by 39,000 to 797,000 in the final three months of 2020 (ONS, 2021). The unprecedented character of the global Covid-19 pandemic has led to uncertainty for young adults and poses a variety of future challenges, affecting both their educational and employment opportunities (Cedefop, 2020).

Transitions

The transition from full-time education in college to work, further training or HE is a significant event and can have a long-lasting impact of the life course of an individual. Not only is this period of utmost importance for their future labour market outcomes, but it also impacts on the overall life opportunities of young people. Post-18 transition patterns have become more diversified, protracted and risky over time (Brzinsky-Fay & Solga, 2016) and are no longer characterized by linearity of progression. Individual college-to-work trajectories are many-faceted and may involve multiple transitions between temporary jobs, part-time work and learning. They may also include reverse transitions such as moving from the labour market back into education. Many young people will experience a level of 'churn' including finding employment, going back to study and dropping out.

Some young people are more vulnerable during transitions than others. These include young people with the following characteristics: low socio-economic status, special educational needs, some ethnic backgrounds, poor record of attendance, low attainment, looked-after and in care, and NEET (see, for example, Evans et al., 2010). Young people with poor socio-emotional skills, low self-esteem, or low self-confidence may be vulnerable during transition due to them lacking the skills that would give them the emotional resilience to cope with new expectations and social relationships (West et al., 2010).

Depending on the young person's trajectory, specific challenges to be faced include different approaches to education or the requirements of work; the size of institutions; requirements for independent study, increased workload and academic expectations; new curriculum content and delivery, and new peer groups and the

need to fit in. Setting appropriate career goals is especially important at transition points. Strengthening CEIAG is a core strategy for helping to improve education transitions so that young people make the right choices and are well-supported.

Vocational students transitioning to Higher Education

A short section is provided on challenges for vocational students moving into HE given the known differential outcomes of these students in comparison to students entering HE with traditional academic outcomes. Students with vocational qualifications, in contrast to those entering from traditional academic pathways, are more likely than A level students to leave during their first year (HESA, 2019), have higher dropout rates even when controlling for prior academic attainment (Hayward & Hoelscher, 2011; Rouncefield-Swales, 2014), do less well at university in terms of final degree class (Shields & Masardo, 2015) and experience differential outcomes in terms of employment. There are two caveats here: 1.) there is no suggestion that students with vocational qualifications are a homogenous group and 2.) this is a complex area.

In developing a framework for next steps, an area worthy of attention is research that has looked at the experiences of first year undergraduates entering HE with vocational qualifications to explore the difficulties they experienced. This might usefully inform a framework to support 16-18-year-olds in college as they prepare to transition into HE.

In broad terms there appear to be two main areas for concern from the perspectives of undergraduates that relate to academic and social challenges. Denny (2020) based on questionnaire responses from 1,500 first-year undergraduate students in Ireland and focus groups with 50 students from four institutions identified time management, writing skills, critical assessment, note-taking, research, mathematics and reading as the main academic challenges. Here mathematics referred to students who may not have sufficient understanding of maths for the course they are enrolled in (see also Katari & Hayward, 2020; Myhill, 2020). Vocational students have also expressed concerns with large class sizes and lectures in contrast to more participatory or interactive approaches in further education (FE) (Myhill, 2020). The greater emphasis on self-directed study in HE compared to the more tutor-scaffolded approach in FE has also been raised as an issue. Assessment modes heavily reliant on exams and use of essays in HE are a concern for vocational students who may be more familiar with more diverse forms of assessment in FE such as developing practice-based or portfolio assignments (Kataetzi & Hayward, 2020; Myhill, 2020).

In term of social challenges such as engaging with new peers and students' social networks, some students found it hard to fit in or felt excluded due to judgements made by other students about their BTEC qualification or their social or ethnic background (Myhill, 2020).

In Denny's study the first-year undergraduate students made recommendations for their upper secondary education institutions to consider in preparation for moving to HE. These included more opportunities for group work, public presentations and independent research; less rote learning and more opportunities for critical assessment through the curriculum offered, and a programme of college visits from course representatives which included student ambassadors rather than just academic staff (Denny, 2020).

Decision-making and young people

Central to enabling young people to flourish in their transition from FE to employment, apprenticeships or HE, is their decision-making. This is important because decision-making is a process that takes place over time. It is dependent on several capacities, including the ability to control emotional responses, in addition to the

capacity to reason about a problem (Van Duijvenvoorde et al., 2010). Decision-making is highly influenced by the contexts within which students operate, including the culture and ethos of the institution (Foskett et al., 2008; Foskett & Hemsley-Brown, 2001). Teachers and tutors can be highly influential, though staff who are not themselves guidance specialists may, by drawing on personal experience, provide information that is no longer current or does not meet the needs of the students.

In reflecting on young people's decision-making, it is important to recognise the influence of family members. Parents provide an important context within which young people form their educational and occupational aspirations (Archer et al., 2012). For instance, research with young Australians demonstrated how parental influence was a significant factor on student intentions to complete Year 12, their plans to attend university and their aspirations to higher-status occupations (Sinan et al., 2014). When considering the significant influence of parents, it may be necessary to consider any potential misalignment between parental expectations and labour force needs, their understanding of technical and vocational qualifications and modern apprenticeships. One possible approach is to provide career guidance to parents. Indeed, in England, the Gatsby Foundation has commissioned research into how schools and colleges can work with parents to support the career guidance of their children.

In addition, there are several perceptions often held by young people that effective CEIAG needs to address if they are to be prevented from making ill-informed choices. One example is the mismatch between the career aspirations that young people hold and the nature of current jobs. Since 2000 the OECD PISA surveys of 15-year-olds from around the world have asked young people about their future careers. Of interest here is the question asked about the job that young people expect to be doing at age 30. Comparing data from the most recent PISA survey carried out in 2018 to the first survey carried out in 2000 shows little change in the career expectations of 15-year-olds from 79 countries (Mann et al., 2020). In fact, these seem to have narrowed (see Table 1).

Table 1: Percentage of students expecting to work in one of the ten most commonly cited jobs at age 30

Top 10 occupations cited by girls			
2000		2018	
Occupation	%	Occupation	%
Teachers	11.1	Doctors	15.6
Doctors	11.0	Teachers	9.4
Lawyers	6.5	Business managers	5.0
Psychologists	3.9	Lawyers	4.6
Nursing and midwives	3.2	Nursing and midwives	4.5
Business managers	3.0	Psychologists	3.7
Veterinarians	2.9	Designers	3.0
Writers/journalists	2.6	Veterinarians	2.8
Secretaries	2.6	Police officers	2.3
Hairdressers	2.5	Architects	2.1
Total	49.0	Total	52.9
Top 10 occupations cited by boys			
2000		2018	
Occupation	%	Occupation	%
Business managers	6.8	Engineers	7.7
ICT professionals	6.1	Business managers	6.7
Engineers	4.9	Doctors	6.0
Doctors	4.5	ICT professionals	5.5
Sportspeople	4.0	Sportspeople	4.9
Teachers	3.9	Teachers	4.6
Lawyers	2.7	Police officers	4.0
Motor vehicle mechanics	1.9	Motor vehicle mechanics	2.8
Architects	1.9	Lawyers	2.4
Police officers	1.9	Architects	2.2
Total	38.4	Total	46.8

Source: Mann et al., 2020, p. 14.

The data also show how the aspirations of boys and girls are very different. In line with other research, many students' aspirations remain relatively narrow and consistent with their achievement in school and college subjects, as well as gendered stereotypes (Musset & Mytna Kurekova, 2018) and social class. When thinking about apprenticeships, for example, there is a default view that they are stereotypically male and are narrow in terms of the vocational or occupational choices available (ACCA, 2017; CIPD, 2013). Of concern is that young people's expectations seem somewhat out of date in relation to the current labour market and the ramifications of Artificial Intelligence (AI) and automation when it is predicted that across the OECD countries almost half of the jobs are at serious risk of being automated in the next 10 to 15 years (Mann et al., 2020).

Similar findings were reported based on a survey of over 7,000 young people in the UK: the sectors that young people aspired to work in varied greatly from the jobs available, highlighting a sharp disconnect between aspiration and opportunity (Chambers et al., 2020). As an example, five times as many young people wanted to work in art, culture, entertainment and sport as there are jobs available. Also apparent was that young people's aspirations for their future career paths stem from an early age, so supporting and challenging young people to consider alternative pathways at age 17–18 may not be easy. It also appears that young people would benefit from better understanding of labour market information (LMI).

For young people progressing to HE, research suggests that some do not understand the hierarchy amongst UK universities and hold a misunderstanding about graduate status and employment. In a recent study involving 56 Year 13 students, who participated in task-based interviews about their decision-making process for UCAS, there was a widely held belief that having any degree would lead to a professional career and a graduate salary, alongside a serious lack of knowledge that some graduates may not enter professional roles (McGrath & Rogers, 2021). Students varied in the use that they made of CEIAG provision and the amount of time and effort they invested in the task of choosing universities. Students who did very little research did not seem to realise that their choices were very poorly informed, and some did not appear to recognise the importance of the decision they were making (McGrath & Rogers, 2021). There are indications, too, that many state school students including those in FE often make late decisions about university that may contribute to less successful applications (Jones, 2013; Shuker, 2014).

International responses to CEIAG

In response to concerns about the quality of CEIAG, governments worldwide have set out policy requirements or guidelines for effective provision. In Australia, the National Career Education Strategy (NCES) (Department of Education and Training, 2019) had the specific aim of a more student-focused approach to content and delivery through increasing awareness and improving national consideration of career education. Here career education is understood as 'the development of knowledge, skills and attitudes through a planned program of learning and experiences in education and training settings to assist students to make informed decisions about their study and/or work options and enable effective participant in working life' (p. 3). Within the Australian strategy there are six objectives:

1. Students have transferable skills to equip them for the future of work;
2. Career education meets the needs of all students;
3. Partnerships thrive between schools, education and training providers, employers, parents and the broader community;
4. Communities create local solutions and flexible pathways to meet the needs to students and employers;
5. Everyone is informed and involved, and
6. There is a strong evidence base.

Developed in partnership with multiple stakeholders including those from education, business and industry, parents and carers, career practitioners and young people, the strategy focuses on three areas to support students in making informed choices:

1. Developing students' skills and capabilities for the future through a planned programme of learning, to prepare them for life beyond school;
2. Strengthening collaboration between schools, employers and local communities to improve student engagement with work environments, and support successful transition to further education, training and work, and
3. Students having the career management and navigation skills needed to make informed career decisions throughout their working lives (Australian Government, 2019).

The emphasis on preparing young people to be able to manage their careers throughout their working lives is seen in the attention given to Career Management Skills (CMS). This is especially important given the multiple careers that many young people will now follow throughout their life.

For instance, in Scotland, the implementation of their CMS framework is central to delivering Scotland's career service. The framework is founded on four competencies that support individuals through life:

- Self – knowing who you are, what you want from life and how to make positive decisions;
- Strengths – knowing what you are good at and how you can make best of use of this;
- Horizons – knowing what is out there for you, how to get there, and being confident in responding to and managing change, and
- Networks – knowing how to manage relationships, use information and your range of networks to support your career journey' (SDS, 2020, p. 4).

The potentially fragmented work trajectories that many young people will face in the future mean that it will be critical that they have the skills and attributes to gain employment, to remain in work and to adapt to the changing work and workplaces that they will encounter: schools and colleges have a part to play in this.

Approaches to CEIAG

Different models are proposed for careers education. Collins and Barnes (2018) in a review of the literature identify three distinct, yet often overlapping and interrelated ways: delivered as a subject in itself, incorporated within other subjects, or through co-curricular (enrichment) activities. Sweet et al. (2010), drawing on research in Australia, identify three slightly different models: as a separate subject, embedded within another subject, or infused across the entire curriculum. Although the research base remains limited, evidence suggests that school/college-wide approaches are essential in the implementation of career guidance programmes, as opposed to isolated interventions (Hooley et al., 2015; Keele et al., 2010; OECD, 2004). Within this it is recognised that there is no 'one-size-fits-all' approach to organising these activities, with geographical location often being an important consideration, and an acknowledgement that approaches may overlap.

The embedded model of careers education where classroom learning is methodically linked to a wide range of real-life careers and applications has been found to be effective in raising student engagement and attainment (see for example the CareerStart programme, Woolley et al., 2013). Advocates of a cross-curricular approach to CEIAG suggest that the main benefit is the capacity to provide age- and stage-relevant career education to all students in education. Having careers education as a cross-curriculum priority has the potential to enable students to develop transferable skills and knowledge in all subject areas and to develop their understanding of how different subject areas relate to employment opportunities and career pathways (Ithaca Group, 2019). Through this embedded approach, teachers made connections between their discipline and aspects of career education and addressed these in their teaching. To be effective it is important that:

- A cross-curricula approach is prioritised by system leaders;
- Adequate resources for planning and co-ordinating a cross-curricular approach are provided;
- Professional development is provided for teachers;
- There is effective content mapping and support resources (Ithaca Group, 2019).

Creating Pathways to Success, in Ontario, Canada, is a guidance and career education programme that delivers career/life-planning to all students from kindergarten to Grade 12. The whole-school programme is delivered through classroom instruction linked to the curriculum, and through broader school programmes and activities. Creating Pathways to Success comprises three areas of learning:

- Student development – the development of habits and skills necessary for learning
- Interpersonal development – the development of the knowledge and skills needed in getting along with others
- Career development – the development of the knowledge and skills needed to set short-term and long-term goals in planning for the future.

Creating Pathways to Success uses a conceptual framework for learning and inquiry. Use of the framework across the curriculum and throughout the school experience aims to help students see the connections between their learning in school and their lives beyond school. At secondary level, students build on their portfolios developed earlier in their educational experience to develop Individual Pathways Plans (Ministry of Education, Ontario 2013).

In British Columbia, Canada, a new school curriculum was introduced over the period 2016–17 to 2019–20. This student-centred curriculum is designed to prepare students for the future and includes a renewed focus on career-life education for students of all ages. Central to the approach is the development of students' core competencies every day in school and in life. The career education curriculum is structured to facilitate integration across multiple areas of learning, from kindergarten through to graduation, and is divided into three major phases: developing foundations, exploring possibilities, and pursuing preferred futures.

In Finland, careers guidance and counselling in upper secondary education is focused on providing students with information about employment, business sectors and entrepreneurship. Of the seven transversal competencies that underpin the curriculum offer, number six, working life competence and entrepreneurship, promotes an interest in and a positive attitude towards school and working life. Guidance and counselling support students' well-being, growth and development and offer material for increasing self-knowledge and self-regulation, and encourage students towards active citizenship. With support, students draw up and update a personal study plan, a matriculation examination plan, a plan for further studies, and a career plan. Students are encouraged to compare different options for further studies and career planning. Particular attention is paid to the transition to further studies (Finnish National Agency for Education, nd).

Factors contributing to effective CEIAG

Effective career guidance (for example, opportunities to hear from past students who have taken the apprenticeship route or presentations from employers/TV documentaries on the changing nature of work) enables adolescents to envisage a pathway to HE, further training and work, increases their engagement with learning and supports the attainment of career management skills for future life, learning and work (Hooley, 2014). Evidence from longitudinal studies indicates that the way in which adolescents think about their futures in education and employment has a significant impact (Hughes, et al., 2016): adolescents from poorer backgrounds are more likely to have career aspirations that are misaligned with their educational ambitions (Yates et al., 2011). Within a rapidly changing career future, and the spread of possible occupations, the new challenge for careers education and guidance is therefore to support young people, their parents and teachers to a) understand occupational change and b) corresponding skill change and, c) make rational decisions about academic, technical and vocational routes into employment.

Staff perceptions of careers provision that are valued by students indicates that individual face-to-face discussions are most appreciated. Other important aspects of provision included visits from guest speakers, visits to universities and employers, careers fairs and mock interviews. Least popular were specialist websites and information leaflets/booklets (Gibson et al., 2015).

Employer engagement

Employer engagement in colleges is an essential aspect of enabling young people to consider multiple pathways for their post-18 transition. Through college, community and employer networks, employer engagement impacts on the learning and progression of young people through influencing their thinking and behaviour; it can challenge the assumptions developed by young people; develop self-confidence, enhance motivation, and support informed decision-making at stages during adolescence based on the understanding of employment opportunities (Knight, 2015; Mann & Dawkins, 2014). Evidence has shown that even a relatively small amount of employer engagement can have a beneficial effect on educational outcomes (Kashefpakdel, et al., 2019). Employer engagement as part of careers provision includes mentoring activities, enterprise competitions, work experience, job shadowing, workplace tasters, and employers setting briefs for project work (Mann et al., 2018; Williams et al., 2018).

Evidence suggests that employer engagement increases young people's understanding of jobs and careers and thereby helps young people decide what to study and where. It provides the knowledge and skills demanded by modern workplaces such as problem-solving and team-working. Through work experience and placement opportunities, young people gain the knowledge and skills required for successful college to work transitions and through engaging employers to support teaching resources, it enables young people to see the connection between what they learn at college and employment outcomes (Mann et al., 2018). Frequent opportunities for students to engage with employers and career-focused interventions, boost transitions into work (Mann et al., 2016).

Professional development to support teachers in facilitating career education

Offering high quality careers education is not without challenges. Many teachers lack experience of the world of work or are out of date with current practice, do not understand how subject knowledge is applied in industry and business to solve real problems, and many have had little or no training in embedding careers education into subject teaching. This necessitates that teachers need time to engage with employers so they can learn about the application of subject content in the real world and from this, develop authentic activities for students. Strong support from middle and senior management is essential.

Employer engagement also offers valuable opportunities for teachers to keep up to date with industry standards and requirements, to understand different and emerging occupations, to update their understanding of contemporary work-based practice and to enrich the curriculum offer by embedding authentic activities (Rogers et al., 2020). Allied to this are the benefits from teacher externships. In Australia, for example, teachers undertake an industry-based work placement relevant to their subject area. They work with industry professionals to design learning activities and participate in industry supported workshops, online courses, or conferences. The partnerships enable teachers to develop their skills so that they can enrich the curriculum and equip teachers with the latest research and industry relevant knowledge (Education Services Australia, 2018).

As is apparent from the career education frameworks reviewed, inquiry-based learning related to careers education features strongly as a pedagogic approach.

Technology and labour market information

Industry 4.0 and technology development are changing skills needs, occupations and roles within different industries. This makes up-to-date labour market information increasingly important.

In Scotland, Skills Development Scotland (SDS) oversee web services such as 'My World of Work' and 'My Kids Career' which include LMI situated within an all-age national careers service. My World of Work is designed to support the development of career management skills and to enable young people to make informed decisions about their future. By creating an account, young people can use the online tools to understand their skills, strengths and interests. They can then explore the world of work and different routes and pathways to get into different careers. They can discover industries and related careers, watch videos of jobs in action, build a CV and explore employment and training opportunities that are best suited to them (Education Scotland, 2015).

In Finland the All About Me portfolio and Individual Pathway Plans provide young people with a structure for career development activities and an online space where reflections and resources can be saved.

Examples of 25 case studies on the use of technology for career guidance can be found on the CEDEFOP website.

Conclusion

Colleges play an important role in enabling young people to make successful transitions, whether these be into employment, further training, apprenticeships or HE. Internationally there is a renewed interest in providing high quality CEIAG in recognition that previously provision was patchy and often resulted in young people making poor post-18 transitions. This is important since unsuccessful transitions can impact on young people throughout their lives.

Quality CEIAG and preparation for progression to employment, further training or HE is personalised, makes strong connections with employers and the world of work and necessitates staff training. CEIAG needs to be recurrent and increasingly should enable young people to develop career management skills to enable them to navigate the many challenges that they will face throughout their lives.

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6.

Future and Digital Skills

Introduction

Continued advancements in technology-driven transformations are impacting on education, the economy and society world-wide. New careers are emerging while others disappear. Many countries have skill shortages and yet at the same time skill mismatches are growing. The notion of a 40-year career has disappeared and young people in schools and colleges face diverse career pathways in which lifelong learning will be important, given the fast-changing nature of some jobs and the continued demand for new skills (Panth & Maclean, 2020).

It is suggested that digitalisation affects education more than other parts of society (Van der Vlies, 2020). The influence of digital technologies pervades education not just in relation to how AI and automation are influencing the demand for different skill sets but in the requirements for new programmes of study and new qualifications; in the need to enable young people to develop high level digital skills to progress in their future careers and in the affordances to enhance approaches to teaching and learning. To succeed young people will need to develop the means to be self-directed learners so that they can upskill and reskill during their working lives and have the resilience to cope with change. Those involved in education have a huge role to play with evidence suggesting that colleges and universities need to adapt faster to the needs of todays' students (Pearson, 2020).

Many governments worldwide have invested in skill needs anticipation processes to provide an evidence base to inform education and employment policies, which in turn influences decisions about the courses young people take and qualification specifications - including the greater attention now being given to alternative credentials that are often delivered in an online environment.

Following an outline of the current challenges within digital education, attention focuses on the potential of digital strategies and frameworks to support developments in the digital education ecosystem, the adoption of alternative credentials and the use of skill needs anticipation systems.

Digital education: identified challenges

There are many examples of digital technology being used in innovative ways throughout this series of literature reviews mostly founded on pedagogical approaches that promote social and collaborative learning, project-based learning, or learning related to real-world issues. Activities have centered on employer engagement, entrepreneurship, e-mentoring and youth social action to name but a few. Focusing specifically on Further Education, a recent publication from Dabbous and Emms (2020) showcases how colleges across the UK are integrating digital technology into their practice and the benefits this brings to the whole community.

However, despite decades of government funding in many countries since the 1970s in support of technology in schools and colleges, the evidence base on the impact of using digital technologies for education and for improving learning outcomes remains scarce and the findings are mixed (Bulman & Fairlie, 2016; Escueta et al., 2017). The provision of technology equipment into schools and colleges does not by itself boost young people's learning or enhance the skills of teachers in improving learning outcomes. It is the integration of pedagogical approaches together with a clear understanding of the purpose of technology in the classroom that are essential. What has also become apparent is that growing up in the digital age does not make young people 'digital natives' (Prensky, 2001) whereby they have a good ability to use digital technologies in a critical, creative and informative way (European Commission, 2014).

A further challenge arises from concerns that young people are not learning enough about digital technologies or their use (Royal Society, 2012; HoL; 2015). Surveys drawing on international responses indicate that the use of technology is to a great extent restricted to non-school, leisure time activities, while engagement with technology for educational purposes in school lags behind (OECD, 2015b). In England, participation in digital skills training at school, in further education and in apprenticeships has declined.

A review of recent evidence that focused specifically on the impact of technology on learning outcomes concluded:

- 'Putting computers into schools is no guarantee that there will be a positive impact on learning outcomes as measured in high stakes assessment or the development of digital literacy.
- How digital technologies are used is as important as whether they are used.
- We don't have a shared picture of what effective digital pedagogies look like.
- Teachers may not have opportunities to develop the skills they need to make effective use of technology.
- The current use and knowledge of computer-based technology in schools and at home is leaving many young people vulnerable to adverse influences and unprepared for the world of work.
- There is a lack of consensus of what is meant by digital education and what forms this should take in education' (McFarlane, 2019, p. 3).

Indeed, the Education Endowment Foundation (EEF) (2019), drawing on a review of the evidence by Lewin et al. (2019), advise only using technology where there is a well understood link to teaching objectives and sets out four recommendations:

- Consider how technology will improve teaching and learning before introducing it.
- Technology can be used to improve the quality of explanations and modelling.
- Technology offers ways to improve the impact of pupil practice.
- Technology can play a role in improving assessment and feedback.

Evidence indicates that there are further challenges for vocational education and training (VET). Institutions are often not sufficiently flexible to respond to the changing needs of the labour market, for the most part innovations in pedagogy and digital technologies have been implemented sporadically and often at the level of an institution and there is a need for VET to respond to the growing demand for higher-level skills by expanding provision at higher levels. It is also argued that VET is distinctive to other educational sectors given its strong links to employers and the labour market and hence copying from other educational practices may not be sufficient (European Commission, 2020). Young people need to learn about digital applications and practices in industry, for example, the use of industry specific software and communications platforms. By implication, teachers also need this knowledge and expertise – see, for instance, the consideration of teacher externships in Next Steps. On a practical level, colleges may need a more robust digital infrastructure that supports a wider variety of learning resources to ensure effective collaboration and cooperation with business and industry (ILO, 2020).

Digital strategies, policies and frameworks

Over half of OECD countries have a published digital education strategy (Van der Vlies, 2020) in addition to those developed across provinces, territories or states. In Norway, the digitalisation strategy for primary, secondary and vocational education for 2017–21 (European Schoolnet, 2018) had a specific focus on how children and young people develop digital skills to participate in society and to succeed in their future lives, with a remit for schools to make effective use of digital technology to enhance students' learning outcomes. In Canada, the province of Ontario published its *Digital action plan for education and higher education* (Ministère de l'Éducation et de l'Enseignement supérieur, 2018). The action plan contains 33 measures clustered under three orientations:

1. Support the development of the digital skills of young people and adults
2. Make use of digital technologies to enhance teaching and learning practices
3. Create an environment conducive to the deployment of digital technologies in the education system (ibid).

In addition to ensure the successful implementation of the plan four governance principles were identified: collaboration, flexibility, pooling and fairness.

Typically, these strategies or action plans focus on infrastructure, advances in digital technologies, data management and learning analytics and AI. Attention is also paid to the societal challenges posed by digital transformation and the importance of developing teacher competences and digital skills and literacy for students (Van der Vlies, 2020 p. 19–20).

While it is beyond the scope of this review to debate the multiple definitions of digital competence, the definition by Ferrari (2012) is offered to ground what follows:

> *Digital competence is the set of knowledge, skills, attitudes (thus including abilities, strategies, values and awareness) that are required when using ICT and digital media to perform tasks; solve problems; communicate; manage information; collaborate; create and share content; and build knowledge effectively, efficiently, appropriately, critically, creatively, autonomously, flexibly, ethically and reflectively for work, leisure, participation, learning, socializing, consuming, and empowerment (p. 30).*

Our Digital Ambition for Scotland's Colleges (SFC et al., 2020) sets out digital ambitions for colleges across five areas: Strategy and direction; Network infrastructure, systems and data; Learning, Teaching and Assessment, Capability, and Partnership, collaboration and engagement. Noteworthy is that the plan was developed through extensive consultation including College Development Network (CDN), Colleges Scotland, Jisc and Scottish Funding Council and discussions with key partners in the digital industries. In addition, the views of students and staff were gathered through a 'Digital Ambition Roadshow' that toured Scotland's colleges. Under each statement of ambition there are examples of the changes that might occur if the strategy is successful.

Also in the UK, the Welsh Government (2019) launched Digital 2030 their strategic framework for post-16 learning in Wales over the next decade. As with Scotland this was developed in close collaboration with stakeholders, including Colleges Wales, Jisc, and with leaders and staff from across the post-16 sector. Relevant here is the framing of the strategy in terms of a digital ecosystem that covers further education, work-based learning and adult learning and the establishment of hwb, a bilingual platform hosting a national collection of tools and resources to support education. This includes an area dedicated to the post-16 sector.

Teachers' digital competences

International evidence makes clear that teachers' digital competence and how they perceive the use of digital technology as adding value to their teaching and the students' learning experience is key. And yet, in successive Teaching and Learning International surveys (TALIS 2013 and 2018) (OECD, 2014 and OECD, 2019), teachers reported ICT skills for teaching as one of the highest professional development needs. This is important since the quality of pedagogy is the single in-school/college factor that has the greatest impact on students' learning outcomes. The development of teachers' digital competence is therefore critical if investment in digital technologies is to be maximized, and if education systems are to keep pace with 21st century needs.

In response to these demonstrated concerns, several digital capability frameworks (DCF) have emerged specifically for educators, in addition to those for citizens and students. Initial evidence suggests that when used effectively DCF have the potential to address the lack of a specificity around digital capabilities, which in turn can enable teachers through critical reflection to identify development needs and, in addition, support policy makers, college leaders and lecturers in understanding the implications of change brought about by digital transformation through shared dialogue (Caena & Redecker, 2019).

Examples include: the *European Union's Framework of Digital Competence for Educators* (DigCompEdu) (Redecker, 2017), the Education and Training Foundation's (ETF) *Digital Teaching Professional Framework* (DTPF) (ETF, 2018) and the Jisc *Building Digital Capability Framework* (2015). The EFT framework comprises a full version intended for leaders, managers and HR professionals to provide a foundation for professional development plans, as part of a staff development and as part of a digital skills strategy. The shortened version is targeted at mainstream practitioners and has seven elements which cover different teaching contexts and activities. The framework is accompanied by free, online, bite-size training modules, enabling practitioners to build up credits towards a badged award. DigCompEdu (see Table 1) specifies 22 competencies under six domains.

Although each framework has developed its own definition of digital capability and they vary in focus and definition, they all identify the importance of digital creation, innovation, communication, collaboration, participation or engagement, digital identity, and well-being (CDN, 2021). It is acknowledged these frameworks were developed before the Covid-19 pandemic and that much has happened since then.

Table 1 Overview of DigCompEdu

Area	Competencies
Professional engagement	Using digital technologies for communication, collaboration and professional development
Digital resources	Sourcing, creating and sharing digital resources
Teaching and learning	Managing and orchestrating the use of digital technologies in teaching and learning
Assessment	Using digital technologies and strategies to enhance assessment
Empowering learners	Using digital technologies to enhance inclusion, personalization and learners' active engagement
Facilitating learners' digital competence	Enabling learners to creatively and responsibly use digital technologies for information, communication, content creation, wellbeing and problem solving.

(Redecker, 2017, p. 16)

The development of DCFs has also led to the emergence of online professional development tools and resources. The ETF framework, for example, is accompanied by free, online, bite-size training modules, enabling practitioners to build up credits towards a badged award and the DigCompEdu framework has been used to develop a self-reflective tool for educators which is currently in its pilot phase. Early indications are positive and suggest that the tool has been useful in engaging teachers in developing digital teaching competences and that when integrated into training, it has supported individual and collective reflection (Caena & Redecker, 2019).

Alternative credentials

Alternative qualifications including micro-credentials, digital badges and nanocredentials are generally understood to be short educational qualifications enabling individuals to learn at their own pace and to build their own skills profile. Although in existence for some time, the recent surge in interest in micro-credentials is underpinned by notions of up-skilling and re-skilling workforces in response to the pandemic, AI and automation (Wheelahan & Moodie, 2021). For the most part, alternative credentials have been the province of higher education with an emphasis on the importance of technical education and skills development and the need for increased flexibility and responsiveness to the needs of employers and society.

In Ontario, Canada the provincial government has funded eCampusOntario to be a centre of excellence and a global leader in technology-enabled teaching and learning, with a specific remit to support the work of publicly-funded Ontario colleges and universities in the development and implementation of micro-credentials (Gooch et al., 2020). To date eCampusOntario has facilitated 36 pilots with each pilot project representing a unique partnership with an industry partner and a collaborative response to an identified skills gap at Ontario colleges and universities. For example, a micro-credential in digital marketing skills for small businesses in recovery post-COVID 19 at Fanshawe College and one in data fluency for freight and parcel delivery workers at Humber College (eCampusOntario, 2021). In June 2020 the Australian Federal Government announced that they would spend $4.3 million to build and run a one-stop-shop for micro-credentials to help students identify educational opportunities (Tehan & Cash, 2020).

There is, however, growing interest across schools and colleges in alternative approaches to credentials although for young people forms of micro-credentials have been around for a long time, such as badges from guides and scouts. What seems particularly attractive to educators is how the development of digital badges and micro-credentials would better support the assessment of 21st century or transferable skills (Gibson et al., 2015), the possibilities for the types of activities that are assessed in addition to formative and summative feedback (Newby & Cheng, 2020) and the potential to recognise learning across many contexts both in and outside of school or college.

As web-enabled icons, digital badges have been defined by Gibson et al. (2015, p. 404) as 'a representation of an accomplishment, interest or affiliation that is visual, available online, and contains metadata including links that help explain the context, meaning, process, and result of an activity'. Like videogame achievements, digital badges can be awarded for mastery of skills, the demonstration of knowledge, or for participation in specific experiences or activities (Abramovich et al., 2013). It is the metadata (data about data) that is stored inside the badge image that sets digital badges apart from 'hard' badges. This can include additional information about the criteria for attaining the badge, how it was earned, any standards associated with the badge and evidence, such as links to documents, e-portfolios, videos and images that supports the accomplishment. Regarding 21st century skills a digital badge could provide a link to a video demonstrating collaboration, entrepreneurial thinking or social skills, for example (Gibson et al., 2015).

Research suggests digital badges are motivating to students and may promote longer-term engagement in activities over time. However, this is not always the case. In the study by Abramovich et al. (2013) where badges were used within an intelligent-tutor system for teaching applied mathematics to middle-school students, findings were mixed depending on the abilities of learners and the types of badges.

Because digital badges recognise achievement at a granular level, it is also possible that a series of digital badges might be useful in forming a pathway to future learning, with learners understanding the next steps required to progress in a transparent fashion (Gibson et al., 2015).

Of crucial importance is the validity of the badge, the credibility of the issuing organization and the recognition and acceptance of the badge by others. How does the award of a digital badge demonstrate that it is trustworthy evidence of a student's achievement and how is this recognised by admissions tutors and employers, for instance? (Davis & Singh, 2015). Critical to this is the direct involvement of key stakeholders in the design of badge systems to support a sense of investment in and ownership of badges, although this does not always happen (Itow & Hickey, 2016). Decisions about digital platforms are also crucial so that badges are visible to different stakeholders.

Beenleigh State High School, in Queensland, Australia implemented micro-credentials and digital badging in recognition that many of their students leave school to go directly into the workforce. They wanted a way to draw attention to and recognise employability skills to enable their students to make successful transitions. Four general capabilities are assessed: initiative and creativity, problem-solving, collaboration and teamwork, and self-management and the badges progress in levels from bronze to platinum. In addition, there are badges focusing on specific industry skills for example, barista, commercial design, digital literacies, hospitality and metal machining. The development of this initiative involved consultation with the school community and community stakeholders including local industries and businesses and a system of co-badging is in place to allow local businesses and community organisations to validate the credentials (The Educator Australia, 2020).

In the US the Aurora Public Schools, working with area employers, have developed a district-wide college and career-readiness badging ecosystem focused on 21st century competences: critical thinking, invention, self-direction, collaboration and information literacy. Employers help validate the badges and the underpinning criteria for the award in addition to providing industry-related learning opportunities for the students. Interestingly, the badges can be used as currency in the community to unlock opportunities with a community partner or endorser. For example, students who were awarded the top level in invention were able to take part in a personalised job shadowing experience with a web app designer. No school/college credit is attached to the badges; however, the process is important in enabling young people to have authentic experiences and conversations with employers about the skills that are needed for their future (Priest, 2016, p. 12).

In addition to school/college digital badge initiatives, many other organizations also offer these. Siemens, for instance, launched a STEM skills programme in 2017 using digital badges to enrich and enhance STEM teaching and learning in the classroom and to nurture talent for the future. The badges, which were based on a series of challenges such as the Green Power Challenge, were for children and young people aged 7 to 16 plus and were supported by a wealth of resource materials (Siemens, nd). Online curriculum providers such as the Khan Academy enable students to earn badges by mastering skills in a range of subjects including arts and humanities, maths and science. And in England, the National Health Service (NHS) launched a series of digital badges in 2015 for 5- to 16-year-olds (for example Stress Buster badge, Me and My Teeth, Flu Fighter and Know My School Nurse) which were grouped into NHS Explorer, NHS Reporter, NHS Inspector and NHS Citizen. These aimed to support children and young people's education in health and well-being. Teachers and students reported positive perceptions of the badges. It was felt that the process developed emotional awareness, built relationships and enhanced skill and knowledge acquisition (Alexander & Neill, 2018).

A final example is included here since it demonstrates how teachers and students can both be involved in gaining digital badges. Although small scale, a pilot programme developed by NASA created instructional digital badges for middle school teachers and their students to solve real-world problems relating to NASA's main missions: Earth Science, Aeronautics and Journey to Mars. For the teachers, the badge offered five hours of professional development and for the students there were two hours of activities (see Table 2).

Table 2 Structure of the teacher and student digital badges

Step	Educator Badge Five one-hour steps	Student Badge Four 30-minute steps
1	Introduction to the topic with background information	Introduction to a short video or reading on the topic
2	Correlations to the topic are presented to research done by NASA	Students see how NASA engineers, research, and scientists are working to solve a problem. Students hypothesize or plan their own solutions to the problem.
3	Review and complete the pre-selected problem-based activity following the recommended implementation steps	Perform an investigation and gather their own data based on the badge activity.
4	Participation in bi-monthly online open discussions and reflection of best practices	Evaluate their data and draw conclusions. Watch a video about a NASA engineer, researcher or scientist working on the topic.
5	Submit a picture of their students at work or student designs as proof of implementation of the activity	

(Robles et al., 2017, p.12)

For most educators this was their first experience of learning about digital badges. They valued these instructional digital badges there was evidence of excitement amongst them regarding the structure and activities (Robles et al., 2017).

Turning to micro-credentials, the New Zealand Qualifications Authority launched micro-credentials as part of its regulated education and training system in 2018. Following this MITO, an industry training organization, designed the first micro-credentials for secondary school students. The programme called StartUp® is for the automotive industry and enables Year 11–13 students to gain practical experience in an automotive workshop alongside e-learning theory, with the credits earned leading into an apprenticeship (Scoop, 2019).

In a more substantive use of digital credentials, Big Picture Education Australia, in partnership with the Assessment Research Centre at the University of Melbourne, has developed the International Big Picture Learning Credential (IBPLC) for entry into tertiary education. In Big Picture Learning students learn through sustained project work and internships with expert mentors in the community in an approach that encourages student agency and combines experiences both within and outside school (Milligan et al., 2020). Given that all students follow an individual pathway based on their interests they do not sit standardized final year exams or the ATAR (the Australian Tertiary Admission Rank). Rather the IBPLC is a personalized form of assessment setting out each student's learning, achievement, competencies and potential where judgements are made on the six assessment frames that underpin the Big Picture Learning goals: knowing how to learn, empirical reasoning, quantitative reasoning, social reasoning and communication and personal qualities. On successful graduation and the award of the IBPLC each student receives an online interactive Learner Profile that reflects and showcases their individual real-world experiences, personal qualities and academic results. In the first year of issuing the IBPLC, 18 Australian universities agreed to accept students onto their preferred full degree programmes (this was over 40 per cent of the universities in Australia) (Big Picture Learning Australia, 2020).

Skill needs anticipation

Given the challenges presented by globalisation, digital transformation, climate change and demographic changes even before the pandemic, and the consequent rapid evolution of skills, governments internationally have invested in systems to support skill needs analysis. The common goal is to understand the type of skills likely to be needed in the future. It is not about predicting the number of electricians that might be required in 2025, for example, but about anticipating trends to inform decisions about how skill mismatches and skill demand might be addressed (Cedefop, 2017a). In essence, effective skill needs anticipation provides an evidence base for decisions to be made about labour market policy and skills provision with the aim of improving a country's employability, productivity and competitiveness. The quality and timeliness of skill needs anticipation systems is especially important given that the development of new training programmes or the design of new competency stands can take many years (ILO et al., 2017).

The outcomes of skills anticipation activities are used widely to inform and support:

- Vocational guidance and career counselling;
- Budget allocations for education and training programmes;
- The design of occupational and competency standards and training programmes;
- Human resource development decisions by enterprises;
- Targeting retraining programmes offered through employment services;
- Policy decisions on the encouragement of workforce migration;
- Industrial, investment, trade, technology and environmental policies;
- National and sectoral employment and skills strategies;
- And the evaluation of training programmes and the impact of skills policies (ILO, 2015, p. 13).

Several countries use anticipation outcomes to determine the provision of post-secondary education including Austria, Germany, Italy and Sweden. In New Zealand, for example, the anticipated shortage of STEM-related skills and other highly skilled professions led to the increase in university vacancies and reduced tuition fees for related programmes (OECD, 2015a). In Ireland the outcomes of skills anticipation data are being used in relation to the digital and green economy (Cedefop, 2017c).

Approaches vary across countries although most involve a combination of:

- Quantitative employment projections by occupations and sector based on macroeconomic modeling
- Qualitative approaches including focus groups, round tables, expert interviews, foresights and scenario development
- Employer surveys
- Surveys that trace school/training graduates and school school-to-work transitions (ILO, 2015).

Analysis of survey data from 61 countries suggests that successful skill needs anticipation systems share several features. They are focused on a specific problem; clear about the main objectives, whether these are to support policy making and contribute to strategic planning or to provide data for better-informed career choices, or both, user-oriented, stakeholder owned and well-coordinated. In addition, they make effective use of institutional platforms for social dialogue on education and training and can rely on competent institutions

and expert networks. These systems have good data coverage and are able to produce assessments for all levels – macro, sector, subnational (ILO et al., 2017).

Known challenges in OECD and EU countries include moving from analysis to policy formation often due to a lack of consultation with stakeholders and embedding the results and analysis in the overall labour market context (ILO et al., 2017).

While understanding labour market information is clearly important, the concept of skill needs anticipation is much broader. It is not only about the outcomes from analytical models, but the expertise needed to interpret and validate them and then the capacity to translate these into the development of actionable policies (ILO, 2015). The involvement of a range of stakeholders and social partners is central to this.

Finland is used here as an extended example of a system of anticipation given its long tradition of generating skill forecasts that are linked to policy making and the wealth of tools and processes that are employed throughout the country (Berg et al., 2015; Cedefop, 2017b).

Finland – look at anticipation of skills also and reference that

Finland anticipates skills and training needs at national and regional levels with the data used to develop the content of education so that education provision matches demand. Dissemination of the data is an essential element of the approach with outputs made accessible to a wide audience including policymakers, employers, jobseekers and young people. Importance is placed on the use of qualitative data (VOSE model), for the anticipation of competences and skill needs, and quantitative data (Mitenna model), for the anticipation of demand for new labour and educational needs. Since 2017, these two models have been consolidated into a single 'basic anticipation process'. Also in 2017, a National Forum for Skill Anticipation was established to serve as an expert body for skill anticipation for the Ministry and Education and Culture and the Finnish National Agency for Education (EDUFI). The forum includes nine sector specific anticipation groups each of which is responsible for the anticipation of competence and skills in their sector, the development of recommendations to improve education and the conduct of further research. The groups cover natural resources, food production and the environment; business and administration; education, culture and communications; transport and logistic; hospitality services; built environment; social, health and welfare services; technology industry and services, and process industry and production.

An acknowledged strength of the Finish approach is its strong engagement with stakeholders. Each anticipation group comprises social partners, educational providers, trade unions or teachers, researchers and members of the education administration. In addition, a wide range of experts are invited to participate in the anticipation process (OECD, 2020).

The anticipation process involves a series of five workshops, with preparatory work undertaken on electronic platforms that serve as an introduction to the workshop and a series of background studies (see Figure 1). As an example, for the anticipation work on the games industry a commissioned background report contained information on the current state, education and NGOs in the sector and development projects in Finland; an analysis of job announcements in the games industry and a competences and skills needs analysis. Outputs from the workshops include scenarios for the development of the employment, industrial and occupational structure, as well as competence, skill and educational needs arising from these. In the case of

the games industry, the analysis of all the material produced by the group, including four scenarios, led to the identification of cross-cutting competences and skills needed in the industry, new professional groups for the games industry such as player psychologic and domain expert, and highlighted the need 'for more multidisciplinary experts, company cooperation and working life orientation as well as the importance of informal learning and study habits with regard to competence in the industry' (Taipale-Lehto & Vepsäläinen, 2016, p. 69).

Figure 1: the basic anticipation process in Finland.

eDelphi 1	eDelphi 2	Foresight questionnaire on business segments	Foresight questionnaire on skills needs	Foresight questionnaire on the current state of education and training
Identification of future drivers of change and building a shared future	**Identification of change related phenomena specific to the anticipation group**	**Identification of the future of business activities, production and working life**	**Anticipation of competences, skills and educational needs**	**Measures proposed for the development of education, training, competences and skills**
• Megatrends, drivers, signals, trends • Processing of preformed scenarios • Analyses of total employment and industrial structure	• Drivers, trends and signals • Further work on the scenarios	• Business segments and the challenges in their development • Production networks • Development of employment	• Identifying qualifications specific to clusters, industries and occupational groups • Anticipation of the task structure • The aims to raise the level of education	• Challenges in the development of competences, skills, learning, education and training • Developing the competence of the current workforce • Assessments of the demand for new workforce
Workshop 1	**Workshop 2**	**Workshop 3**	**Workshop 4**	**Workshop 5**
Background material 1		Background material 2	Background material 3	

(Adapted from Ministry of Education and Culture, 2019 p. 2)

Conclusion

The future challenges for schools and college are multiple. Technology impacts on the way in which education is delivered, while education has a role to play in preparing young people for digitally driven work. Education must also empower young people to gather the understanding and resilience that will enable them to become lifelong learners who continually develop digital competencies, in addition to other demands of the changing world of work.

It is therefore disappointing that despite the promises of digital education and the amount of investment internationally, the evidence about the impact on student learning outcomes remains mixed. In addition, as Hillman (McFarlane, 2019, p. 1) commented 'there is no shared view of what the digital education agenda is aiming to achieve or what the priorities should be for policy-makers and practitioners'. Undoubtedly there are challenges with the quality of the research evidence, in part due to the complexity of different contexts and conditions, difference in the types of technology adopted, variations in intensity of use and so on. And yet, there are numerous examples of the benefits of digital innovation throughout this series of literature reviews, which demonstrate future potential.

The digital transformations brought about by the Covid-19 pandemic have accelerated change within education, not just in the need for different qualifications and skills, including alternative credentials, but also in recognition of the potential of digital technologies to transform learning, the increased acknowledgement of the importance of multiple sites of learning both formal and informal and the necessity of lifelong learning. Governments internationally are renewing digital education strategies, DCF are being embedded and attention is being paid to pedagogical approaches that support the embedding of digital education. Effective skill needs anticipation is essential here also in underpinning policy directions and decisions. Central to maximizing the potential of digital technologies in education will be the empowerment of teachers through developing skills and confidence so that students can flourish now and in the future. It is unlikely that one-off individual institutionalised approaches will be sufficient, rather attention needs to be paid to developing digital educational ecosystems that embrace multiple stakeholders in a meaningful way: collaboration is central to this.

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