



Preparing students
for the future world of work

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How can educational programmes around the globe prepare students for, arguably, one of the most crucial and defining steps into the workplace and adult life? As global industries, communities and societies constantly evolve and adapt to meet a new set of challenges, such as preparing students for an evolving era of increased complexity, automation and hyper-connectivity, it is crucial for those working in education to engage in their role at the forefront of this change. This will help ensure that today's students are prepared to face not only our current challenges, but are able to pre-empt, identify and effectively plan to tackle issues that are yet to arise, or have not been encountered globally in the past.

For many students, there is a mismatch between the knowledge they've acquired while in education and the skills they require in the workplace, and the lack of synergy between the two can make their years of school learning seem misdirected, even obsolete.

This is highlighted in the OECD's Future of Education and Skills, Education 2030 report, which states: "Schools can prepare them (students) for jobs that have not yet been created, for technologies that have not yet been invented, to solve problems that have not yet been anticipated. It will be a shared responsibility to seize opportunities and find solutions!"



Looking forward: a human touch in a digitalized world

Traditional methods of teaching and learning may not be fit for purpose. In 2017 the technology giant, Dell, estimated that 85% of jobs that will exist in 2030 haven't yet been invented, and even if this is a huge overestimate of how the job market will change it is certain that jobs will evolve². How can teachers prepare students for what does not yet exist?

The solutions to this problem, although varied, focus around students developing a broader skill set and having the ability to adapt to advanced technologies, but there will still remain the need for human intuition and ability when working with new technology. This is mentioned in a research summary prepared by Michaela Horvathova from the Centre for Curriculum Redesign, which notes: "Although computers are making inroads into domains previously confined to human workers, they are unlikely to replace jobs that require complex social interactions, such as persuasion and negotiation, as well as creative work involving the creation of new ideas. Thus, in order to adapt to recent trends in technology, workers will have to acquire creative, social and digital skills."

In the aforementioned summary, Michaela Horvathova also highlights the need to innovate the learning in classrooms, writing: "Supporting teachers' capacity to guide children's learning is an important part of transforming the teaching and learning process. Indeed, making progress in education requires being open to new ways of teaching and learning that may look quite different from what characterizes the average classroom. Effective teaching puts student inquiry at the centre and actively engages students³."



Providing a different approach

Many current education programmes follow a pyramid approach: the longer students follow their studies, the more specific and specialized the learning becomes. However, if we are to adequately prepare our students for an ever-changing world, a more horizontal approach is required; meaning students would be able to draw knowledge and skills from a broader base of academic rigor, and real-world approaches, helping to develop the skills and attitudes needed for taking responsible action.

In Finland, for example, education reforms have allowed schools to take a thematic approach to learning⁴. A student's curriculum can be a collection of subjects all varying around a singular theme. Subjects such as history, geography and science can all be linked with each other to broaden the understanding of how these subjects relate to the real world. Singapore, while focussing on one subject, mathematics, is evolving the way that it is taught so that learning formulae from textbooks takes a back seat and an emphasis is placed on providing a channel for learning through everyday problems learners may encounter at work⁵.

For students in Germany, the Vocational Education and Training (VET) system provides a strong bridge between what is taught in the classroom and the skills needed in the workplace. When looking at this system, a review conducted in 2010 noted: "One central principle is that of complementarity between school and work-based learning, with more theoretical types of learning in school balancing more practical learning in the workplace. The two elements are mutually reinforcing: theory facilitates a well-grounded approach to practical problems; while practice in turn supports theory by providing a continuous flow of real-world examples and applications⁶."

South Africa too, has a strong vocational offering for students through the National Certificate - Vocational, or NC(V), which helps to facilitate the transition from school to work, and develop students as autonomous life-long learners.

Looking at a few of these examples around the world, we can see that there is focus for building for educational programmes that not only educate students for classroom purposes, but develop established, relevant lessons that follow students through all walks of life. "Education needs to aim to do more than prepare young people for the world of work; it needs to equip students with the skills they need to become active, responsible and engaged citizens⁷."

Addressing the current educational landscape

Recently, there has been a radical shift in the way educators have to deliver learning effectively to students. The COVID-19 pandemic has directly impacted the way millions of students and educators across all sectors in education are working. For students, the impact of remote learning is sizeable. Inequality may drive different technology uses, and a lack of support naturally integrated within remote learning may result in certain students not being able to access guidance or support when needed most. Crucially, educators must ensure that these students are not left behind due to their individual circumstances, while also making sure that they themselves, are learning and adapting to these demands and changes of remote learning. The potential for inequality in resources and technology can affect them as heavily as it can students; the educational community as a whole is feeling the impact of this and will likely continue to for some time to come.

If students are to thrive when adapting to this new way of learning, then many will have to acquire new skills they may not have had time to learn previously. On its most basic level, virtual learning demands flexibility, self-motivation and a practical knowledge of technology. Recently, many students have been required to practice independence and to take personal responsibility for their learning in a truly unprecedented fashion.

In the past, there have been calls to reform education systems and the examinations that come with them. With COVID-19 impacting schools, colleges and universities across the world, many are thinking that now is the time to hit the restart button. Writing for Times Educational Supplement, educationalist, writer and former head teacher, Dr Bernard Trafford comments: "If the pandemic stops the examination juggernaut in its tracks, perhaps that's because it wasn't fit for purpose in the first place⁸."

For educators to effectively respond to large and unforeseen events such as this, education programmes need to have an element of adaptability built in. Focusing more on developing competences (concepts and skills) rather than knowledge may be more engaging for students forced to study remotely rather than face to face. Assessments that focus on evaluating these competencies often require a digital environment rather than paper examinations, and may lend themselves to the open book, less secure environments that disruption often brings. They also do not lend themselves to intensive revision reducing the impact of disruption leading up to an examination.

Today, we are faced with uncertainty and instability; attempting to navigate through the uncharted waters of a modern-day pandemic. Students can develop global attitudes such as international-mindedness through studying modern education programmes, helping expand their perspectives and understanding of the implications and effects that large incidents like this have across the planet. Having the ability, attitude and mind-set to relate and rationalize impacts on both a local and global scale, is a powerful tool to equip our future generations with.

For our future professionals to effectively work across different industries and sectors, they must combine academic knowledge with an ability to work as a team, utilizing each individual's strengths and combining them. Academic achievement on an individual level may once have been the focus and priority for students, but now, many universities and places of work are looking for more than a set of grades. Students need to be able to develop strong communication skills, challenge and critique issues in a constructive way, learn to view topics and ideas from multiple perspectives; not viewing themselves as individuals, but part of a much larger society. When looking at the application process for the University of Yale, it notes that: "two questions guide our admissions team: "Who is likely to make the most of Yale's resources?" and "Who will contribute most significantly to the Yale community?""



Traditional pathways presenting challenges

The CEO of the World Innovation Summit for Education (WISE), Stavros Yiannouka stated: "In education, we naturally talk and focus a lot about what we should learn. We also think there's an important role to play in unlearning. There are a lot of potentially disruptive trends happening in society today. Climate change is front and centre among our concerns, but so is automation and artificial intelligence. They could potentially dramatically reshape the workplace, both in terms of displacing people from jobs, as well as opening up new opportunities and new ways of doing things. If we're going to thrive in this new environment, if we're going to be able to confront some of the challenges and seize the opportunities, then education plays a central role¹⁰!"

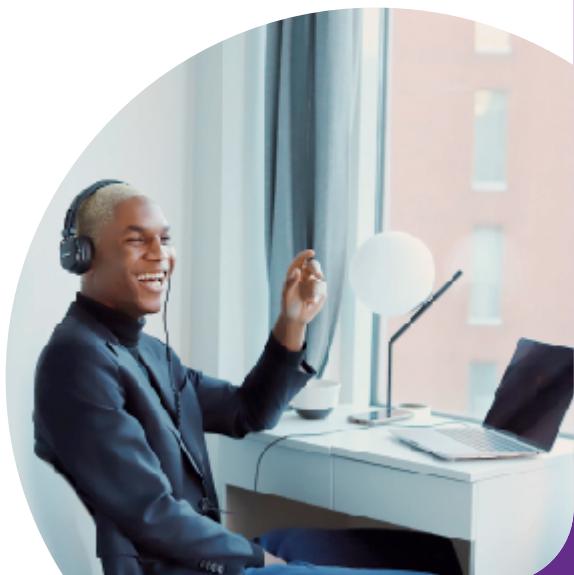
It is important to consider why existing educational routes may not adequately prepare the workers of tomorrow for the world of work and the disruptions raised by Stavros Yiannouka. Traditional programmes of education fall short in one key area, which is to provide more balance between vocational and academic learning. Solely academic options do not offer any vocational elements, and, due to following a linear framework of learning, don't help to stimulate the broad approach of thinking required to efficiently prepare students for both work and life beyond the classroom. On the other hand, those opting to take apprenticeships may find their experience of student life limited due to the nature of the course, and when looking at traineeships, it may be difficult to see if they run for a long enough duration to adequately prepare students for the world of work.

Those following career paths heavily reliant on practical work can often find that a vocational qualification is a preferred option¹¹. On the flip side, academic qualifications are a cornerstone to most students' education in which most curriculums and teaching methods adhere to and work towards. Neither one alone unlocks the potential of millions of students who have the ability to draw benefits from both. If we are to truly and properly prepare tomorrow's workforce, students must have an education that effectively combines both academic and vocational elements.

For many applicants, industry experience is becoming an essential requirement before entering the workplace and it is common for employers to ask for two to three years' worth of relevant experience before considering candidates, but how can students get their foot on the career ladder without developing the skills in the first place? Often it is through low paid, or unpaid internships but these restrict social mobility as only well connected, or financially well-off learners can afford to take them up and to prevent further disadvantage these opportunities must be built into the educational programmes that students engage with¹².

Having both vocational and academic elements incorporated into a learning programme are valuable asset for students to possess, expanding their ability to adapt and evolve with the world around them. Whilst it is important to consider the knowledge and skills students develop through academic and vocational education, there are other key factors which need to be incorporated into an integrated programme of study.

For example, the way that we interact is evolving. Social and cultural diversity is reshaping communities; interconnectivity is becoming a utility, not a luxury. Traditionally recognized post-16 education programmes are failing to address these changes in a number of ways, one major issue is a lack of emphasis being placed on teamwork. The focus placed on individual accomplishment overshadows working together to achieve common goals. Moreover, using only local or national examples when showcasing and teaching students about the workplace is an inadequate way to prepare our students, and a good insight into how international workspaces operate is a crucially valuable asset and can really benefit a student's future career¹³. Working in teams with colleagues from different cultures and attending meetings virtually situated in different continents is becoming common practice in many workspaces all over the world.



The Career-related Programme

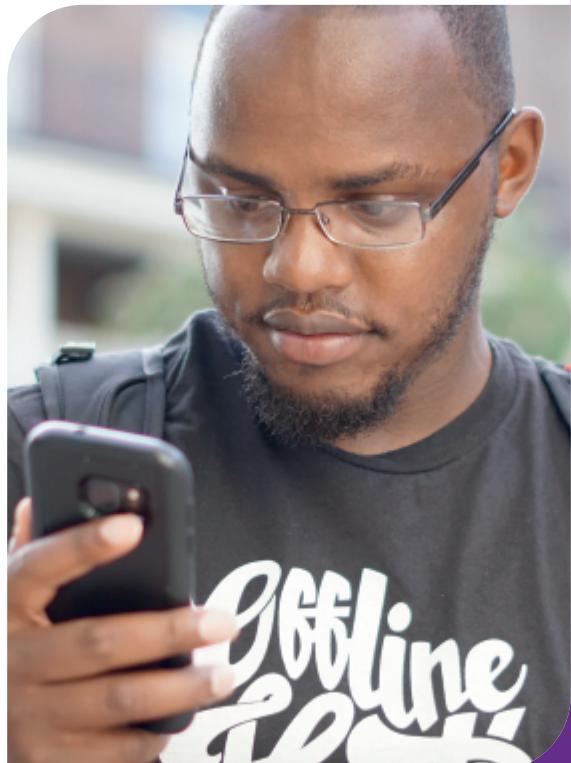
A flexible framework with a focus on inclusivity, the International Baccalaureate Career-Related Programme (CP) is an international programme of education for 16–19 year-olds, combining academic learning with career-related education (CRE), while also helping students to develop attitudes fostered through the ethos and values of the IB. Launched in 2012, the CP is offered in 289 IB World schools across 41 countries and continues to grow.

The CP is structured in a three-part framework, consisting of:

- A minimum of two courses from the IB's Diploma Programme (DP), which provide the theoretical underpinning and academic rigour of the programme.
- A career-related study, which further supports the programme's academic strength and provides practical, real-world approaches to learning that prepare students for an internship or apprenticeship, a position in a designated field of interest or university. The career-related study gives students the opportunity to learn about theories and concepts through application and practice while developing broad-based skills in authentic and meaningful contexts.
- The CP "core", which acts as a bridge between the IB academic courses and the career-related study, providing students with a combination of academic and practical skills. The core is built around four components: personal and professional skills (PPS), a core module aiming to develop responsibility, practical problem-solving, good intellectual habits and ethical understandings; language development, that encourages students to improve their proficiency in a language other than their best language; service learning, which develops and applies knowledge and skills towards meeting an identified community need; and the reflective project, in which students identify, analyse, critically discuss and evaluate an ethical issue arising from their career-related studies. These four components help to support students as they move through the programme.

The CP benefits students who know which chosen field they wish to pursue, as the programme can be tailored to be industry specific. It also allows flexibility in the subjects taken so that students won't just gain academic knowledge, but have the technical knowledge too. This broad and flexible nature offers learners opportunities to change direction as they mature and develop self-understanding of what engages and drives them

Completion of the CP, successfully prepares students to take the next step, either straight into employment or to higher education. A research summary on employability skills in the International Baccalaureate CP, found that when looking at major employment sectors, skills shortages have been identified in language and communication skills, (reading comprehension, writing, speaking and active listening), process skills, (critical thinking and active learning), complex problem-solving skills and social skills. The CP addresses this within the three-part framework, providing the breadth needed for students to successfully learn and practice workplace skills, as well as learning about their chosen field. Within the summary, researcher Michaela Horvathova mentions that "integrating the development of employability skills into traditional classroom subjects, or teaching skills through subjects, is an important strategy for cultivating a breadth of necessary skills and competencies¹⁴."



Alternatively, if students decide to move into higher education, the CP allows students to develop the self-confidence and skills to participate successfully within higher education. Universities value the CP for a number of reasons, including the students' ability to manage challenging and varied workloads while also bringing the appropriate academic knowledge and understanding. In addition to this, they also arrive with cognitive and affective skills allowing them to successfully transition between school and university.

In 2017 in the UK, the University of Southampton (a Russell Group University) became the first to make an official admissions policy statement for the CP in recognition of how the programme prepares its students for university and its value within the UK education system. In 2019 IB data found that 56% of UK CP students progressed to university, the remainder went to employment, apprenticeships or Further Education. An impressively small 2% of the cohort were unplaced or unemployed four months after the completion of their studies.

An earlier research study by the IB found that "the majority of survey respondents indicated that they enrolled in the CP because they were interested in the subjects offered through the programme and because they believed it would give them a competitive edge in further education. The CP is therefore seen by many as a way to combine both academic and career-related interests¹⁵."

Cultivating students' growth as social citizens, team players and in open-mindedness, educators delivering the CP are more than just teachers, they are guides, helping to stimulate a student's learning to let them reach and draw their own conclusions on subjects of discussion and debate. These defining and distinctive traits of the CP are quickly proving important for the next generation to possess, inspiring and preparing its learners to take their deserved places on the world stage. Enrolling in the CP is an effective and structured way of delivering the need for knowledge, skills and attitudes required to fully prepare our young learners for their transition to employment, whether they go directly there after school, or first go to university with a solid academic foundation. The CP ensures that students develop transferable future-ready skills; empowering them to be the best that they can be to give them a valuable head start in life. Students learn by doing what they love best while building lifelong skills enabling them to move through the world as confident, socially responsible citizens with a sense of purpose.

¹ A. Schleicher, et al, 'The future of education and skills Education 2030', OECD, 2018, p.2.

² J. Magee, et al, 'The next era of human machine partnerships: emerging technologies impact on society and work in 2030' IFTF, 2017, p.14.

³ M. Horvathova, 'Study on employability skills in the International Baccalaureate Diploma Programme and Career-related Programme curricula', Bethesda, MD, USA. International Baccalaureate Organization, 2020, p.4.

⁴ I. Halinen, 'The new educational curriculum in Finland', Improving the Quality of Childhood in Europe Volume 7, Brussels, Alliance for Childhood European Network Foundation, 2018, p.75-89.

⁵ ThoughtCo, '5 Key Factors of the Singapore Math Method', Morin.A, 2018, (accessed 4 September 2020).

⁶ K. Hoeckel, R. Schwartz, 'Learning for Jobs: OECD Reviews of Vocational Education and Training - Germany', OECD, 2010, p.13

⁷ A. Schleicher, et al, 'The future of education and skills Education 2030', OECD, 2018, p.4

⁸ TES, 'Coronavirus is making us rethink school exams? Good', B.Trafford, 2020, (accessed 7 September 2020).

⁹ Yale, Admissions, 'What Yale Looks For', Yale University, 2020, (accessed 7 September 2020).

¹⁰ EdSurge, 'What We Need to Unlearn and Relearn to Thrive in the Future', Wan.T, 2019, (accessed 7 September 2020).

¹¹ Ofqual, 'Employer Qualification Perceptions Survey' Ofqual, Coventry, 2017, p.17, p.22.

¹² A. Stienberg, 'Unpaid internships unfairly target low income students', The Badger Herald, September 13, 2017

¹³ International Workspace Group, 'Thought Leadership – The future of work', IWG, 2020, (accessed 7 September 2020).

¹⁴ M. Horvathova, 'Study on employability skills in the International Baccalaureate Diploma Programme and Career-related Programme curricula', Bethesda, MD, USA. International Baccalaureate Organization, 2020, p.7.

¹⁵ H. Behle, et al, 'The International Baccalaureate (IB) Career-related Programme (CP): Students' experiences, postsecondary destinations and outcomes', IBO, Warwick Institute for Employment Research (IER), 2016, p.1.

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