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Due to the impact of COVID-19 on the world, it has never been more important for young people to be able to make links between their classroom learning and the real world in order to confidently tackle the challenges of isolation, but also understand the social, economic and environmental impact it is having on the world. This is articulated in 'The Future of Education and Skills – Education 2030', where the OECD's Director of Education and Skills points to the "unprecedented challenges driven by accelerating globalization and a faster rate of technological developments… the future is uncertain and we cannot predict it; but we need to be open and ready for it". The OECD states that to navigate through such uncertainty, students need to develop curiosity, imagination, resilience and self-regulation; respect and appreciation of ideas, perspectives and values of others; they will need to cope with failure and rejection, and move forward in the face of adversity.

In its report, 'The Learning Generation: Investing in education for a changing world', The Education Commission on financing Global Education Opportunity chaired by former UK Prime Minister Gordon Brown, proposes an action plan that focuses on delivering and financing education opportunities to reach the 260 million children and young people across the globe who are not in education. Access to education for all is, of course, an essential priority but, it is also essential to consider the type of education children should receive and at which ages. The OECD's work aims to help countries to find answers to two questions:

- What knowledge, skills, attitudes and values will today's students need to thrive and shape their world?

- How can instructional systems develop these knowledge, skills, attitudes and values effectively?

In an article about addressing global challenges through education, Saimak Sam Loni, partnerships manager, United Nations Sustainable Development Solutions Network describes the potential for young people to shape their world: "More than half of the world's population is currently under the age of 30, making this the biggest generation of children and young people the planet has ever seen. At a time when the world's governments have identified 17 urgent goals for global sustainable development, to be achieved by 2030, today's teens and young adults are clearly going to play a pivotal role in defining the world we see in 2030, and beyond." A focus on the United Nation's (UN) Sustainable Development Goals, has shifted the education focus to prioritising much larger collective goals, so that the adults of tomorrow are equipped to successfully address the challenges they face.

It was not until the early 20th century that the importance of middle-years education for students aged 11 – 16 was recognized. Primary education had long been acknowledged as providing solid foundations and essential skills for future learning, and in most national education systems, the last two or three years of formal schooling have been considered essential for assessing a young person's attainment across chosen subjects and disciplines.

Yet, it is during this transitional stage, from childhood to adulthood, that young people develop a unique set of physical, physiological, intellectual and social needs and characteristics, which shape them as adults.

During adolescence, while complex physical and cognitive development is taking place, many young people show increased ability for goal setting, planning, problem solving, and abstract thinking. This is the time when they develop new perspectives and feelings about themselves and the people around them; it is a time for them to explore their passions and interests; and it is a time when confidence, self-esteem and agency, through debate, discovery, moral-reasoning, and decision making, can be successfully built.

Teenage years are also a time when young people tend to be more self-centred, impulsive and willing to take risks. There are obviously issues associated with some risk-taking behaviour but, when this trait is channelled in a positive direction, young people develop new skills and characteristics, including resilience and courage, which will stand them in good stead in the future.

Taking a closer look at brain development, the 'Executive Function', describes the capacity to control and coordinate thoughts and behaviour, enabling decisions-making and working memory, and is developing from early childhood, right the way through to the mid-20s. At the same time, adolescents are developing their social cognition and awareness and their bodies are changing – this process is not linear, it is very different for each child, making it challenging for the educators to navigate but, because of its very nature, adolescence is a transitional window that provides a unique opportunity for education to capitalize on.

The propensity for young people to rebel and align with radical, risky or 'courageous' ideas and behaviour has been seen throughout history – from the 1970s punk rock era, to today's climate action. A single teenager, like Greta Thunberg, can ignite mass action in a way that, arguably, no other generation can. As these movements and ideas are not limited by geography, it is crucially important for young learners to have an education that offers global contexts and perspectives; an education that is holistic in its approaches to teaching and learning would be the most appropriate for tomorrow's leaders.

While middle level education on the whole is frequently prioritised, a recent report from the UK labelled education for 11 to 14 year olds as "wasted years". Similarly, the National Academy of Sciences (Biotechnology Information – NCBI) has noted that "Emerging cognitive capacities allow youth to develop goals and identities; build critical, analytical, and creative thinking skills; and take responsibility for their own education. However, today's school systems are not aligned with these new understandings, and many schools struggle to meet the increasingly divergent academic levels and needs of adolescents."

The International Baccalaureate (IB) believes that the middle years of education is the window for students to develop their potential, explore their learning preferences, take risks, and reflect on, and develop, a strong sense of personal identity. Through its Middle Years Programme (MYP), the IB believes it equips young people with the right knowledge, skills and 'mindset', to positively change the world through their ideas and actions. Like many other educational responses developed in the late 20th century, the MYP is resonant with the "middle school movement"; a response to the growing recognition that early adolescence is a specific phase of human development that has its own characteristics, and consequently, a defined set of conditions for success with respect to curriculum, pedagogy and assessment, leadership and organization, and culture and community.

Recognizing that academic success requires more than just content knowledge, a review of research on related factors that enable achievement reported that academic performance is a complex phenomenon, shaped by a wide variety of factors intrinsic to students and in their external environment. In addition to content knowledge and academic skills, students must develop sets of behaviours, skills, attitudes, and strategies that are crucial to academic performance in their classes, but that may not be reflected in the scores on cognitive tests".

The MYP's integrated teaching and learning approach is designed to help students analyze complex issues and develop the habits of mind they need to participate in the increasingly interconnected world. At this crucial developmental stage, it also helps adolescent students develop their personal understanding, and their emerging sense of self and responsibility in their community. Using global contexts, MYP students develop an understanding of their common humanity and shared guardianship of the planet through developmentally appropriate exploration of: Identities and relationships; personal and cultural expression; orientations in space and time; scientific and technical innovation; fairness and development; globalization and sustainability. Evidence for the success of the MYP in developing students' understanding of global issues has shown that former MYP students responded more positively to statements in a global-mindedness survey than students who had attended a non-MYP school.

The effectiveness of the MYP in developing wider attributes was also reported in the UK in a study from the National Foundation for Educational Research (NFER) conducted a curricular comparison of the MYP, the GCSE and IGCSE in the UK. Findings showed that, in comparison with non-MYP students, MYP students generally rated higher in certain non-academic attributes such as international and civic-mindedness, as well as global awareness.

The MYP is a unique curriculum framework that encourages students to make practical connections between their studies and the world around them. It is available in 1,705 schools worldwide. Originally designed by the International Schools Association to meet the needs of middle level learners in international schools, the MYP promotes the fundamental concepts of intercultural understanding, communication and holistic learning.

In line with the IB's philosophy, the MYP aims to develop active learners and internationally minded young people who can empathize with others and pursue lives of purpose and meaning. Capitalizing on adolescents' natural predisposition to question and debate, it is designed to empower students to inquire into a wide range of issues and ideas of significance locally, nationally and globally.

The MYP framework and approaches to learning (AtL) help students develop both subject-specific and interdisciplinary understanding. AtL teaches them how to learn better by developing skills of research, critical and creative thinking, communications, collaboration and self-management. Key and related concepts help students underpin knowledge and understanding across and within subjects, while the application of learning to global contexts relates what they learn in the classroom to a wider context, allowing them to understand why the learning is relevant.

Rather than the traditional parallel teaching of subjects seen in the majority of national curricula, the MYP organizes teaching and learning through eight subject groups which are linked through the understanding of key concepts and allow students to understand why their learning is valid by looking out from the classroom to the world outside. At a deeper transdisciplinary level, subjects are linked through interdisciplinary units where learners develop understanding from at least two subject groups to enhance their understanding so that the sum is greater than the separate subject inputs.

The eight MYP subject groups are not unfamiliar to teachers in secondary schools. They comprise:

- Language acquisition – the study of additional languages provides students with the opportunity to develop insights into the features, processes and craft of languages and the concept of culture, and to realize that there are diverse ways of living, viewing and behaving in the world.

- Language and literature – developing skills in six areas: Listening, speaking, reading, writing, viewing, presenting. Students interact with a range of texts, they generate insight into moral, social, economic, cultural and environmental domains and grow in their abilities to form opinions, make decisions, and reason ethically.

- Individuals and societies – incorporating disciplines traditionally studied in the humanities, in this group students collect, describe and analyse data used in studies of societies, test hypotheses, and learn how to interpret complex information, including original source material. In this way, students learn to respect and understand the world around them and are equipped with the necessary skills to inquire into historical, contemporary, geographical, political, social, economic, religious, technological and cultural factors that have impact on individuals, societies and environments, in both local and global contexts.

- Sciences – students work individually and collaboratively to investigate issues through research, observation and experimentation. They investigate real examples of science application to discover the tensions and dependencies between science and morality, ethics, culture, economics, politics, and the environment. They develop good ethical reasoning skills, and further develop their sense of responsibility as members of local and global communities. MYP sciences usually include biology, chemistry and physics, and can also include environmental sciences, life sciences, physical sciences, sport sciences, health sciences, earth sciences.

- Mathematics – student learn both inquiry and application which helps with problem solving techniques and transcend the discipline and are useful in the world beyond school. MYP mathematics aims to equip students with the knowledge, understanding and intellectual capabilities to address further courses in mathematics as well as mathematics in the workplace and everyday life.

- Arts – with MYP art, students have opportunities to function as artists as well as learners of the arts, with a combination of visual and performing arts disciplines. Arts stimulate young imaginations, challenge perceptions and develop creative and analytical skills. Involvement in the arts encourages students to understand the arts in context and the cultural histories of artworks, supporting the development of an inquiring and empathetic world view.

- Physical and health education – MYP students learn to understand and appreciate the value of being physically active and to develop the motivation for making healthy life choices.

- Design – design challenges all students to: Apply practical and creative thinking skills to solve design problems; explore the role of design in both historical and contemporary contexts; consider their responsibilities when making design decision and taking action.

Action and service are important shared values within the IB community. MYP students take action when they apply what they are learning in the classroom and beyond. IB learners strive to be caring members of the community, who demonstrate a commitment to service – making a positive difference to the lives of others and to the environment.

Through the MYP students experience the responsibility of completing significant self-directed pieces of work over an extended period of time; known as the community and personal projects. These encourage students to carry out an extended project cycle in which they identify a question to answer, carry out the actions to address the question, report and reflect on the process. One student created a socially-conscious recycling concept called REDONE/IT for their personal project, which converts old denim into bags and was created to empower women who work on developing the products.

The IB has also found a way to harness technological innovation to enhance its assessment of MYP students' achievements at the end of the five-year programme. Its award-winning MYP eAssessment is designed to make learning and assessment more meaningful. Optionally available to learners in their fifth year of the course, and regulated by Ofqual in the UK, eAssessment focus is heavily placed on inquiry, communication and critical thinking, designed to measure a wide range of knowledge, understanding, communication and problem-solving skills.

During eAssessment, students take six onscreen examinations, available in Mathematics, Language and Literature, Sciences, and Individuals and Societies, alongside completing coursework e-portfolios in Language Acquisition, Physical and Health Education, Arts and Design and the Personal Project, which are assessed in-school and moderated externally. This combination of on-screen examinations and coursework means that a students' achievements are "tested" in different means. For example, while writing capabilities can be assessed though a short essay, communications skills can be evaluated through creation of an infographic.

Through eAssessment, students enjoy a richer experience during their final years of MYP study, as teachers will have access to a greater range of contemporary stimulus material and media content for questioning and discussion. The examination process with eAssessment is positive and highly engaging thanks to its effective use of technology and focus on deeper levels of understanding; using the fullest range of digital techniques to enable authentic assessment, that Is accessible for all learners. For example, the on-screen examinations have accessibility features built into the software to meet the needs of students who require alternative arrangements. The software is versatile, and provides the ability to change font types and background colours for those that require it, and can provide additional time and pauses to allow its students breathing space; a world away from conventional pen and paper exams seen in aging educational systems.

Siamak Sam Loni, partnerships manager, United Nations Sustainable Development Solutions Network, says: "IB World Schools offer their students an education that is global, multidisciplinary and strives for a better world; this is an integral part of the IB philosophy and well aligned with the SDGs. The units of study and engagement activities found in IB programmes equip students with the knowledge required to understand and engage with the SDGs as informed global citizens; they share a philosophy and mission that leads them to care about the goals and to translate this awareness and concern into action.

"IB students are a real movement for social change. With over 5,000 schools in more than 150 countries; more than one million students today and a massive alumni network, the IB and its students have the potential to make a significant positive contribution towards reaching the SDGs. Young people can help build new systems that are founded on sharing knowledge and cooperating across boarders; no longer working in silos. As such, the lifestyles (values, attitudes and behaviours) and capabilities (knowledge and skills) of this generation will come to define the world of 2030 and far beyond."

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