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The End of School as You Know It: Education in 2050

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Education is at an inflection point. Historically, learning was exclusive, very personalised and highly inaccessible. Later, as education became mandatory, accessibility increased but, as a consequence, it became much less personalised. With the rise of technology, and AI in particular, the education space is set to change significantly once again, as accessibility and personalisation combine.

This is an exciting prospect but how exactly will it work, and what will school look like in 2050?

At GoStudent, we're excited and curious about how learning, and the education system at large, will evolve with the introduction of new technologies.

We've worked with renowned futurist and Visiting Professor in Digital Futures and Identity, Tracey Follows, to share a range of exciting predictions for the future of education. Drawing on her extensive experience, Tracey has explored the next 30 years of education, grounded in the data produced from our GoStudent Future of Education Report 2023.

It is certain that there will be a shift in both how and what we learn. How information is consumed will be driven by technological improvements: the continued implementation of hybrid learning, the introduction of AI-enhanced education and increased engagement with virtual reality. These new formats will allow students and teachers to benefit from more personalised learning programmes. What we learn will also change. New technology will create a need for new skills, making it essential for the curriculum to evolve to keep up with society's demands.

At GoStudent, we're already familiar with the importance of integrating new technologies into our services so that we create new, exciting ways for students to learn, tailored to their unique needs and learning styles. For example, we recently launched GoVR, an immersive language learning platform for students that is set to revolutionise language learning for the next generation.

To actively continue to shape the future of how students learn we must embrace what lies ahead. We're excited to see how education will evolve, and what this means for us as we continue on our mission to reimagine education.

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Tracey Follows

Futurist, Author and Visiting Professor in Digital Futures and Identity

The culmination of the summer holidays also signals the start of that much-anticipated stress-inducing time of year; back-to-school.

Children will have spent the last few weeks shopping for new pencil cases and iPads, preparing for their return to the classroom. Parents will have been planning pick-ups and drop-offs and will already be scheduling activities for half-term. Teachers have been preparing their lesson plans and gearing up for the year ahead.

The back to school rush has become an intrinsic yet often slightly stressful part of the summer holiday. So, it may come as welcome news that the back-to-school ritual as we know it will be a thing of the past in the not too distant future. In fact, by the time the current student body are themselves parents, and grandparents, it is likely that the concept of term times will be assigned to history.

Together with GoStudent, I have explored what the world of education holds for us in the future, and it has proven to be fascinating! With the rapid progressions in technology, we are on the brink of a technological explosion that will change how the entire world operates.

Education will be at the epicentre of that change. By looking ahead to 2050, we get a glimpse of what is to come.

Future Gazing Towards 2050: Setting the Scene

Of the UK's current Gen Z school goers, 57% say school alone is not preparing them for their dream job, signalling that change is not only desired, but also necessary.

Moreover, almost half of students believe that their future work will be directly related to technology.

Technology is certain to play a central role in the continued advancement of the structure of education, but to fully understand what that system might look like in 2050 we must first understand the role it will play in upcoming decades.

2020s – Education Embraces AI

This decade will see AI enter the education sector and, initially, it will be used primarily for assistance. Digitisation and data will characterise this time, as our communications are transformed away from the written word to a more 'image based' and oral communication style. AI-automated content and AI-prompting will also alter learning methods.

2030s – Efficient Education via AI Autonomy

This decade will be defined by autonomous systems. The AI that entered the previous decade will now act in an agent role, working on behalf of people to carry out tasks, and communicate what we don't have time to do as humans.

2040s – Immersive VR Reshapes Daily Life

Some companies are already using VR to assist with training and education. However, it's only in the 2040s that this technology will be truly mainstream with the twinning of physical and digital spaces via the Metaverse and the overlaying of digital information onto our physical real-world experiences. Immersive learning technology is already in motion but this is the decade where multiple worlds, made real by computer code, will create fully immersive experiences for education.

2050s – Brain-Computers Deliver Immediate Knowledge

This decade will deliver the promise of brain-computer interfaces. As a result, knowledge will be accessed more directly and immediately - perhaps by merely downloading it directly to one's brain. In 'hive mind' mode, knowledge no longer resides with one individual but across the group, delivering greater knowledge more immediately.

The Educational Experience in 2050

Having set the scene for these technological advancements, we can start to understand some of the biggest changes that will influence learning and education in the lead up to 2050. In the coming years, factors such as AI-integration and the evolution of the way students want to consume information, will see a rapid increase in the rate of change to how students learn.

We're likely to see the end of back-to-school stress as we know it: learning will become continuous rather than episodic. Term times will no longer exist, and the scheduling of classes will become obsolete. The traditional academic calendar will no longer apply because technology has made it possible to integrate so many aspects of learning and education into other areas of life.

Meanwhile, teachers' roles will become elevated. Teachers will move upstream from a facilitating role to a personal coaching role, on-hand as a guide to the learner, to help co-pilot alongside AI-assistance. Additionally they will take on the responsibility of nurturing the mental and emotional wellbeing of students.

The physical classroom as we know it will no longer exist. Instead, the classroom will be distributed across the learners' lives. 'School' will now be accessed at work as part of an employment skills programme and throughout social and leisure time. That's because knowledge will be instantly available via virtual training spaces for whatever, whenever and wherever someone would like to learn.

Let's dive deeper to see how education shapes up in 2050.

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Personalisation for Purpose

Learning will no longer be driven purely by the skills that employers want and the subjects that governments or policy-makers value, it will also be driven by the student's own purpose and passions. Early examples are already starting to take place in Taiwan, where the country has piloted a new curriculum that focuses on the competence of the student as a life-long learner who, at the age of seven or eight years old, is encouraged to follow their own interests and set their own projects.

AI will help teachers guide the subject choice and learning pace of students, but it is highly possible that genetics will also be integrated to help inform learning strategies and identify potential aptitudes for certain skills, trades or competencies. It may become mandatory for learners to take at least one subject that their DNA testing suggests they will excel in. Whilst DNA-based analysis and assessment will never tell the whole story, combined with, for example, psychometric testing, it may become possible to determine certain traits, talents or roles students might have a predisposition for.

As curricula become more bespoke, students will be grouped by skill, rather than age. The type of skills required will be weighed up and analysed in part by AI, and based around the learner's interests, learning pace, ambitions and life purpose, as well as current lifestyle. Language levels will no longer be a barrier to joining a programme, as all lessons will be automatically translated in real-time for both teachers and students. Allowing children with different mother tongues to consume the same content as part of the same lesson.

Research has found that amongst those school children struggling to focus when studying, more than a third find the National Curriculum 'boring' (34%) and 'difficult' (21%).*[1]

This sentiment is echoed by their parents, with nearly two-thirds (59%) of UK parents believing their children will learn more from life skills in comparison to just at school – a much higher figure than their peers across Europe (48%).*[1]

DIVE INTO THE FUTURE: THRIVING IN AN IMMERSIVE LEARNING ENVIRONMENT

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Dive into the Future:
Thriving in an Immersive Learning Environment

By 2050, simulated environments will be the primary mode of learning in certain subjects like medicine, biotechnology, nuclear, and interstellar studies. Recent research from McKinsey estimates that the Metaverse has an impact of between $180 billion to $270 billion on the academic virtual learning market.*2

While innovative companies are already partnering with existing technology platforms to offer virtual education, by 2050 this will have become the norm across the whole education spectrum, regardless of socio-economic background.

As a result, classes will be both synchronous and asynchronous, taught live by professional teachers and academics, offering thousands of tailored subjects. In these immersive worlds, students will be learning astronomy on a star ship, palaeontology on a dinosaur island and discovering ocean marine life under water, once again rendering the physical classroom obsolete. Students will be taught directly by famous scientists and historians of the past as digital personas generated by AI to teach generations of students to come.

Immersive learning will democratise education, granting access to those who are currently denied the physical version of high-level study, either due to geographical location or the high fees often associated with high income countries. Consequently, students from across the world, irrespective of socio-economic backgrounds, will have access to state of the art facilities, such as science labs and music rooms.

Four in five (83%) children (14-16yo) in Europe are interested in learning in the Metaverse, and 57% of children (14-16yo) in Europe think the Metaverse will enable them to learn more effectively.*1

43% of children (14-16yo) in Europe also think the Metaverse will replace the physical classroom.*1

95% of business leaders expect the metaverse to have a positive impact on their industry within five to ten years, and 61% expect it to moderately change the way their industry operates.*2

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PENS DOWN, AI'S UP: THE RISE OF CONTINUOUS MONITORING AND ASSESSMENT

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Pens Down, AI's Up:
The Rise of Continuous Monitoring and Assessment

The school calendar will change as we know it, primarily because testing will no longer be carried out by annual exams. With AI being employed to constantly monitor and guide learning, testing and assessment by default will now be performance-based and continuous. There will be year-round breaks, but these will not be timed to coincide with students as a collective, they will be personalised by monitoring the individual learner's mental health and programmed to take place when that individual student needs flexible breaks.

'Learn-to-earn' Web3 solutions that are emerging today will have long since replaced the curriculum vitae. It will be the digital wallet and credentials, rather than a CV, that is used as proof of qualifications. It will be commonplace to have a digital skills wallet which holds tokens earned through the completion of masterclasses and other virtual courses. New or evolved accreditation and standards will need to have been implemented to cater for this.

Meanwhile, brain-computer interface companies will be making technology that helps both the student and the teacher learn from the pupil's own brain. Wearable devices like headphones, earbuds and glasses will have neurotech built in, monitoring cognitive health - in particular distraction, focus and performance. It will help to detect when a student is cognitively overloaded or close to burnout.

An impressive 77% of students believe technology facilitates learning. Meanwhile over four in ten (44%) of children (14-16yo) in Europe think learning will be improved by AI to learn at one's own pace by 2050.*[1]

Continuous monitoring and assessment will have implications for those who have special needs, as the customisable nature of future education like this will allow people to proceed on the best path for them as an individual learner, rather than the standard path for the 'average' learner.

A change in assessment could ease the stress of students. At present, the majority of parents in Europe (77%) would like mindfulness to be taught to their children.*[1]

SCHOOL'S OUT: INTRODUCING 'LEARNING BY LIFESTYLE'

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School's Out:
Introducing 'Learning by Lifestyle'

One of the ways to understand the school of the future is to think about school becoming a verb, rather than a noun. The educational term 'school' comes from the Greek word 'scholē', which means 'leisure'. Learning was seen as an activity: a series of discussions that were held during one's leisure time. Over time, that word became connected to the place rather than the activity itself.

By 2050, education will return to its roots. The educational ecosystem will exist beyond the school gates and operate as a lifestyle-led service to which one can subscribe throughout one's life. We might call this 'learning by lifestyle'. For example, if one needs to speak Japanese on a travel excursion, real-time AI translations will be available, so one speaks in a language he or she has not yet learnt.

Therefore, just as much learning will take place outside the classroom as it will inside the (digital) classroom of 2050. Gen Z and Gen Alpha are already demanding that real-life skills should be a greater part of the curriculum and the best way to do that is to learn them in the real world. To better understand finances, politics, trade skills and even mental health, well-being, and mindfulness, one must shift activity outside the traditional classroom and make it part of one's work life or social life.

Half (48%) of parents in Europe believe that children develop more with life skills than school alone.

Only 21% of children (14-16yo) in Europe think they learn everything they need at school to prepare for their future.*[1]

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Technically Speaking:
A World of New Skills and Specialisms

As every job becomes a tech job, learning trades closely associated with the 'Information Age' will take on greater importance. Skills related to computer science and coding, data analytics, cybersecurity and programming are already growing, and there will be more opportunities to learn these skills as they become embedded into other types of educational courses.

By the time we reach 2050, there will be brand new technologies and subject matters to learn, such as quantum computing, advanced robotics and genetic engineering. In the meantime, cleantech, deep tech, sports tech, space tech and neurotech will have become mainstream subject areas. Most learners will have a basic knowledge across all of these sectors, similar to maths and science in today's curriculum, while others will naturally choose to specialise further in each of these fields.

As time moves on, more and more of the knowledge needed will be accessed via AI rather than retained and learnt. Consequently, other skills will come to the fore, such as collaboration, critical thinking and creativity. Collaboration could possibly be the greatest skill requirement in a future that includes co-piloting, communicating, interacting with, and working alongside, machines and AI. Working with AI will require different traits and a whole new skill set to that required when working alongside other humans. This knowledge is currently largely untapped, but it is a set of skills we will see more and more of in the future. Understanding how to work with AI will become a central feature to education, from the perspective of teachers, tutors, students and parents alike.

The more technical and vocational our 21st century essential skills become, the more likely it is that people will learn by experience and not by explanations. Expect far less text-based learning to be taking place and far more voice communication incorporating both audio and visual demonstration.

50% of children in Europe would like to be taught AI and 47% robotics. The topmost sought-after job categories for children in 2023[*1] include:

1. Health and social care
2. Computing/Tech
3. Creative industry

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Conclusion

By the time we arrive in 2050, the old industrial model of large classrooms and learning by memory will be a thing of the past. Term-driven timetables and chronologically scheduled classes will also be redundant. This will be replaced by a fully personalised timetable for students, with DNA testing even playing a role in determining what learning should be consumed. Meanwhile, brain-computer interface companies will be making technology that helps both the student and the teacher learn from the pupil's own brain.

'Learning by lifestyle' will become the norm and it won't be uncommon to see a mixture of younger and older generations in the same digital classroom.

Education must evolve to set children up for a successful future. The proposed technological advancements mean that there are exciting times on the horizon, with students, teachers, and tutors alike all set to experience a more engaged form of education. The integration of AI as a genuine conduit for teaching will help free up capacity so that teachers can spend more meaningful time with their students. And with the next generation ready to embrace virtual reality learning*1, there is an opportunity to engage with a connected audience.

In addition to facilitating access to quality tutoring, GoStudent will continue to create adaptive learning methods so that education can fulfil a role for everyone.

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References: *1 GoStudent, 'The GoStudent Future of Education Report 2023', March 2023 *2 McKinsey & Company, 'Value creation in the metaverse: The real business of the virtual world', June 2022

Biographies

Felix Ohswald is the Co-Founder and CEO of GoStudent, one of the world's leading tutoring providers and education platforms.

Felix, and GoStudent's, goal is to use the best of tech to unlock the full potential of every child. Felix's passion for mathematics led him to start GoStudent as a homework chat app while pursuing his master's degree. Realising the importance of the right student-tutor match, he teamed up with his friend and GoStudent's COO, Gregor Müller, to launch GoStudent in 2016. Believing the future of education is hybrid, GoStudent combines the best of the online and offline world to unlock every child's potential. The company recently launched GoVR, an immersive language learning platform that is set to revolutionise language learning for the next generation with tutor-led virtual reality (VR) group experiences in virtual environments that simulate real-life settings. Felix was recognised on Forbes Europe's 30 under 30 Technology list in March 2023.

Tracey Follows appeared in Forbes, in a list of the top 50 female futurists in the world.

Follows is also the Founder and CEO of Futuremade, a futures consultancy. She works with brands, businesses and organisations to help them spot trends, develop foresight and fully prepare for what comes next. She is the author of The Future of You: Can your identity survive 21st century technology? and host of The Future of You podcast where she invites renowned academics, authors and innovators to discuss and debate the future of identity in a digital world. Follows is a Visiting Professor of Digital Futures and Identity at Staffordshire University, a member of the Association of Professional Futurists, World Futures Studies Federation, and an associate fellow of the World Academy of Art & Science.

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