



# The Future of Learning



## The Global Challenge

The main global challenges pertaining to learning are related to the curation, contextualisation and control of a rapidly increasing amount of data, information and learning content. As the O3B ('other three billion') initiatives make continuous efforts to provide internet connectivity to the world's developing markets, there is going to be a definite shift in the use, makeup and function of the internet as its usership reaches unfathomable numbers. With this considerable expansion in connectivity, as well as the increase in widely available cheap devices at a time when 60% of online traffic is already on mobile, there is a going to be a tidal wave of content that is accessible all of the time, anywhere. As the ability to learn whatever, whenever continues to empower the individual learner, traditional learning content providers and distributors will face the challenge of repositioning themselves within the new ecosystem that is emerging.

For learners, everything they will need to know in order to progress in their chosen discipline will be available online, but it is going to be vital that there is a way of filtering and curating this overwhelming wealth of information in a way that is simple, intuitive and valuable. A learner needs to feel confident that the answers they are getting are accurate, up-to-date and the best input for meeting their needs.

With learning taking place across a vast range of content types and platforms another challenge will be providing an assessment and accreditation framework that is able to reflect the investment and aspirations of learners around the globe. The learning that takes place on a mobile device at the instigation of an inquisitive learner needs to have the same status as courses delivered in the traditional learning environments of schools and universities.

A key question that arises is whether virtual, online learning is able to replicate the powerfully immersive interactions that form the basis of face-to-face exchanges. Learning is grounded in the interplay of conversation, experience and meaning. Are applications and algorithms capable of creating meaningful and relevant learning opportunities that are based on actually understanding the learner and responding to their needs?

Furthermore, is the world in danger of losing the ability to 'learn' properly? With every answer to every question being only a touch screen away, does it mean that learners are only going to be threading together an uninterrupted sequence of hastily-consumed information chunks rather than internalising and applying their knowledge in ways that are personal to them? Or, conversely, is a new learning skill being developed as a result of

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### Standards of Learning

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### Replicating Face-time

A key question that arises is whether virtual, online learning is able to replicate the powerfully immersive interactions that form the basis of face-to-face exchanges. Learning is grounded in the interplay of conversation, experience and meaning. Are applications and algorithms capable of creating meaningful and relevant learning opportunities that are based on actually understanding the learner and responding to their needs?

### Knowing Everything

Is a new learning skill being developed as a result of the immense amount of information at our disposal? This skill could enable learners to locate, extract and apply precisely what they need, precisely when they need it, without having to wrack their memories for classes they took years previously. The words "I don't know" would become redundant.

### Streaming Learning

Learning content will emulate the model of music streaming; rather than purchasing the music as a product, the listener pays for access. As such, a learner will be able to engage with valuable learning content as and when they need to without needing to subscribe to full courses or a full set of materials.

### Paradigm Shifts

The ancient paradigm of a teacher-led learning approach as represented by rows of identical desks or chairs facing the same single point of reference at the front of the room will be replaced by a more fluid, collaborative pedagogical method.

### Collaborative Networked Learning

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It is certain that learning material will no longer be delivered in discrete packets of content as with the print model. Instead, publishers and content creators will have all of their content available in the cloud for learners to access as and when they need to. Learning content will emulate the model of music streaming; rather than purchasing the music as a product, the listener pays for access. As such, a learner will be able to engage with valuable learning content as and when they need to without needing to subscribe to full courses or a full set of materials.

We would also predict that the flexibility and responsiveness of digital learning platforms and approaches will greatly influence the way that learning is promoted in traditional environments. As adaptive and personalised learning develops thanks to the considerable data that is being captured on the behaviours and abilities of learners, so too will classrooms and other physical learning spaces become less rigid and passive in their arrangement and use. In all levels of education, from reception to university, learning spaces will evolve into configurable, inductive interfaces that empower the learner to create an environment that works best for them. The ancient paradigm of a teacher-led learning approach as represented by rows of identical desks or chairs facing the same single point of reference at the front of the room will be replaced by a more fluid, collaborative pedagogical method.

Furthermore, we predict that there will be a movement away from a top-down, broadcast approach of learning to a hyper-collaborative global network consisting of learners, institutions and content providers. Larger entities will emerge within that network but there will no longer be any oligopolies in the learning sector. Well-established learning institutions

will need to learn how to best position themselves within this new learning ecosystem.

It's uncertain whether the adaptive learning technologies that are able to leverage the immense amount of data generated by and about each individual learner will be able to provide the same quality of learning that face-to-face instruction has done historically. An adaptive learning engine is able to identify what content a learner needs to cover in order to achieve predetermined objectives, for example, but can it help a learner discover for themselves what it is they need to learn in order to reach their own set of goals? Despite the personalisation that is provided through adaptive learning products there is still the challenge of maintaining the focus on the individual and their desires and ambitions when it comes to their learning.

It's also uncertain how learning institutions and the hyper-collaborative network paradigm are going to exist in combination. It can be argued that there will remain a place and a use for institutions that implement a more deductive pedagogical approach, but how such institutions will communicate and contribute to the network of connected and highly-motivated learner/users is difficult to anticipate.

Furthermore, it's not clear what the impact will be of the overwhelming amount of information that is going to be available once internet connectivity reaches the O3B markets and as mobile interactions continue to represent the lion's share of internet traffic. How will learners be able to navigate and filter the overwhelming volume of material at their disposal in order to locate content that is directly going to be of benefit to them?

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## Options and Possibilities

With the ascension of adaptive learning in combination with increasingly digital learning environments, we would view the 'rehumanization' of the learning space as a compelling option for addressing the attendant challenges. This would entail the promotion of productive crowdsourcing learning networks whereby individuals are able to elicit answers or input from a globally dispersed community of learner-users. These communities would be self-organising and self-regulating and capable of providing quick and reliable feedback to an individual learner's needs. This ecosystem of P2P connections would act as an organic filter for the learner, collaboratively curating the vast amount of information available and providing responses and recommendations based on collective experience.

An adaptive learning layer may be added to this model that would then make recommendations or suggestions based

on the learner's online history or search behaviour. Rather than making suggestions in the form of content chunks to cover, however, the adaptive learning layer could suggest topics, themes or areas of study that are relevant or related to the material the learner is choosing to interact with. In a sense the adaptive learning element would become a virtual curriculum developer that responded to the preferences of the individual learner.

In addition, the evolution of the Semantic Web by the World Wide Web Consortium (3WC) will potentially provide an in-built solution to navigating the vast amount of data when looking for applicable learning material. The Semantic Web will present online data in terms of relationships and relevance rather than as straightforward text-based search criteria. A learner will be able to engage with online content that understands what they are looking for and how it relates to and impacts other topics.

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## Proposed Way Forward

In the first instance, we would propose the implementation and integration of the ongoing assessment of the use of technology within traditional learning environments. It's already apparent that technology is becoming embedded in classrooms and lecture theatres so it would seem to be a logical progression of that evolution to start observing how that tech is being used by the learners themselves. Educators could carry out regular review sessions with their students to gain an insight into how the learning tech and online resources is being leveraged in the attainment of identified learning goals. This could then contribute to a new model of adaptive curricula that are realised at the intersection of teacher and technology.

The deliberate observation of technology enabled learning would help to shift the attitudes towards educational technology to a more proactive and engaged one, as opposed to reactive and resistant. This phase

of observation can be global as well as local, especially in the light of the O3B initiatives that are going to dramatically increase the number of people with access to the Internet. How are learners in India using their tablets compared to learners in Mexico, for example? Are learners gravitating towards similar sites or applications? What questions are being asked?

To complement this observation we would suggest that educators encourage their learners to source information from their own Personal Learning Networks (PLNs) and to also actively contribute themselves to requests from other individuals within their communities.

We would also propose a widespread use of adaptive learning technologies in conjunction with teacher-led enquiry. This would provide the learning technologies creators to learn from the application of their

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products and to further refine them. The out-of-hand rejection of such technologies will result in the delay of creating more advanced, more intuitive systems that are able to better meet the needs of the learner. In the meantime, it would also capture an enormous amount of quantitative data on how learners are interacting with technology and how they are engaging with their learning materials. This will in turn help to inform how learning content can be created.

## Impact and Implications

### Learning From The Crowd

The impact of embracing adaptive learning and the encouragement of crowd-sourced learning solutions would help to radically change the culture surrounding learning and promote the shift from a top-down model to one of collaboration and exchange.

The impact of embracing adaptive learning and the encouragement of crowd-sourced learning solutions would help to radically change the culture surrounding learning and promote the shift from a top-down model to one of collaboration and exchange. There needs to be an alignment of learning potential and practice in order to allow the extensive benefits of learning technology

to be realised. This requires the active participation of all parties within the learning space: educators, learners, content creators, publishers and tech developers. We would even go so far as to predict that there will be less and less distinction between those functions across the learning space as connectivity continues to improve.

### *Lead Expert – Tim Gifford*

#### **Co-founder, ELTjam.**

*Lead expert on the Future of Learning.*

Tim Gifford is a co-founder of ELTjam, a digital consultancy and product development business in the field of English language teaching (ELT). They help clients from within and outside ELT become and stay competitive by offering content development, business development and product design expertise and also develop products in-house and in partnerships with other companies.



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## About Future Agenda

### *Context – Why Foresight?*

In an increasingly interconnected, complex and uncertain world, many organisations are looking for a better understanding of how the future may unfold. To do this successfully, many companies, institutions and governments are working to improve their use of strategic foresight in order to anticipate emerging issues and prepare for new opportunities.

Experience shows that change often occurs at the intersection of different disciplines, industries or challenges. This means that views of the future that focus on one sector alone have limited relevance in today's world. In order to have real value, foresight needs to bring together multiple informed and

credible views of emerging change to form a coherent picture of the world ahead. The Future Agenda programme aims to do this by providing a global platform for collective thought and innovation discussions.

#### **Get Involved**

To discuss the future agenda programme and potential participation please contact:

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### *Future Agenda 1.0*

The Future Agenda is the world's largest open foresight initiative. It was created in 2009 to bring together views on the future from many leading organizations. Building on expert perspectives that addressed everything from the future of health to the future of money, over 1500 organizations debated the big issues and emerging challenges for the next decade. Sponsored globally by Vodafone Group, this groundbreaking programme looked out ten years to the world in 2020 and connected CEOs and mayors with academics and students across 25 countries. Additional online interaction connected over 50,000 people from more than 145 countries who added their views to the mix. All output from these discussions was shared via the futureagenda.org website.

### *Future Agenda 2.0*

The success of the first Future Agenda Programme stimulated several organizations to ask that it should be repeated. Therefore this second programme is running throughout 2015 looking at key changes in the world by 2025. Following a similar approach to the first project, Future Agenda 2.0 builds on the initial success and adds extra features, such as providing more workshops in more countries to gain an even wider input and enable regional differences to be explored. There is also a specific focus on the next generation including collaborating with educational organizations to engage future leaders. There is a more refined use of social networks to share insights and earlier link-ups with global media organizations to ensure wider engagement on the pivotal topics. In addition, rather than having a single global sponsor, this time multiple hosts are owning specific topics wither globally or in their regions of interest. Run as a not for profit project, Future Agenda 2.0 is a major collaboration involving many leading, forward-thinking organisations around the world.

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