




# Trends in learning Report 2018

Based on research from The Open University's  
Institute of Educational Technology

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**It is an exciting time to be a learning professional. The way we learn is continually being shaped by technology, which means there is a stream of advances to take advantage of, and incorporate into, corporate learning.**

**And these are underpinned by insights from a range of sciences including neuroscience, cognitive sciences and social sciences.**

Using both science and technology, learning professionals are able to transform the way learning and performance is supported. The trends highlighted in this report show that there is a huge shift taking place in corporate training. That shift is towards learning being designed around how people learn best and how learning can be applied and integrated into the workflow.

The Open University's (OU) Institute of Educational Technology (IET) is at the forefront of identifying and developing all of these new tech-enhanced ways to improve learning. Every year we investigate the latest innovations in teaching, learning and assessment, innovations that we think are shaping the education landscape of today and tomorrow. We also analyse the implications of those innovations for workplace L&D and how they are already being used in the workplace.



## Spaced learning

**It's common knowledge that people learn best in a series of short learning sessions with gaps in between them, rather than one long, set piece of learning. We learn best this way both in terms of short-term memory and long-term memory. Recent neuroscience findings confirm this, such as research by Dr Paul Kelley from the Department of Clinical Neurosciences, University of Oxford.<sup>1</sup>**

It's research such as this that has caused spaced, repetitive learning to become so popular. It works because each recall session activates the learner's short-term memory, while also fixing it in the long-term memory.

Typically, with spaced learning, this is what happens in a trainer-learner context: there is a 20-minute period of learning, followed by a 10-minute break when the learner engages in some kind of related activity (putting the learning into practice). Then learners are asked to recall key information from that first session during another 20-minute session, followed by another 10-minute break for related activity.

Finally, the learner applies their newly acquired knowledge during a final 20-minute session.



### What impact is it having on workplace learning?

We now have the tools and techniques to deliver spaced learning in the workplace, digitally as well as face-to-face, across multiple sites and at times that are convenient to the learner and the organisation. The process of learning, reflection, repetition and application enables people to rapidly learn new skills, whilst also retaining them in the long-term.

Compliance training is one area in particular where spaced learning has proved popular and effective. It enables organisations to break down what is often technical and potentially boring learning into small, manageable chunks. This makes the learning both more accessible and memorable for learners. Organisations can also check what knowledge has been retained.



“Spaced, repetitive learning works because each recall session activates the learner's short-term memory, while also fixing it in the long-term memory.”



## The practitioner's view

Sue Bradshaw, chief people officer for a large digital investment fund

Spaced learning is important for the organisations I work with as now, more than ever before, we need people to rapidly learn new skills and retain knowledge that they will apply in the workplace. The luxury of whole days or weeks spent in classrooms at work are fading fast. We need quick and impactful learning interventions that enable people to minimise time off the job.

“Companies I am working with are starting to use spaced learning to push short learning sessions to mobile phones and tablets and follow-up with test questions that reinforce the learning.

Organisations have different cultures for learning, some have a high focus on classroom learning – face-to face or virtual – and others believe in one of the many forms of e-learning. To get started with spaced learning and demonstrate its effectiveness, I would

start with compliance training. Why start with the boring stuff I hear you cry! Well because spaced learning will break the dreaded annual programme into small and accessible sections. Rather than a long “click and forget” course; you will be able to have impactful learning nuggets and regular follow-up input and test questions.

Compliance has distinct learning points and it's vital that we can show not only completion of a course but also retention of knowledge.

### Resources

**Article:** Review of research literature on spaced repetition <https://www.gwern.net/Spaced-repetition>

**Article:** Making long-term memories in minutes: a spaced learning pattern from memory research in education [ncbi.nlm.nih.gov/pmc/articles/PMC3782739/](https://ncbi.nlm.nih.gov/pmc/articles/PMC3782739/)



## Tips for L&D

- Design short, spaced learning - it is more effective than one long piece of learning
- Spaced repetition helps fix information in the short and long-term memory
- Mixing information delivery and practice helps embed learning
- Gamification is a good way to introduce spaced learnings
- Compliance training is a good place to introduce this approach to learning



## Post-truth learning

**In today's world fake news and filter bubbles are nothing new and something that we've come to accept in modern society.**

However, the scale of constructed media, our awareness of it and the impact it has on public opinion and society in general has grown exponentially over the last couple of years.

Post-truth was even the Word of the Year in 2016, according to Oxford Dictionaries. As a result, post-truth learning is also big news.

People are thinking about the need to access, share and evaluate information responsibly and accurately. How do we know what information to trust? What sources to trust? What about our networks?

There's a phrase for how we think about these questions and it's called 'epistemic cognition', which means knowledge about knowledge. In particular, epistemic cognition refers to knowledge about important, fundamental concerns around objectivity, subjectivity, rationality and of course, truth. Researchers have identified ways of improving learners' epistemic cognition.



### What impact is it having on workplace learning?

One way that epistemic cognition is having an impact on workplace learning is a move towards an evidence-based approach – urging people to think about the evidence for what they are thinking and doing and why.

Epistemic cognition is all about encouraging people to question things, rather than blindly accepting and following the norm. This includes promoting the understanding of the nature of knowledge and the justification. It also involves cultivating people's ability to assess the validity of claims and how to make sound judgments, arguments and decisions.

One example of how this can and is being incorporated into workplace learning is encouraging learners to think about scenarios that involve conflicting accounts. Those accounts could be conflicting news stories, conflicting pieces of information or research or even just conflicting stories.

Through this, learners will learn to question information and decision-making processes. In particular, it encourages learners to think about and reflect upon their own assumptions and how they came to the decisions they reached. Organisations are now building on that by helping learners to consider and use strategies for evaluating knowledge.

This is particularly important in the current world because people get and share information from a variety of sources all the time – not just traditional media, but also social networks, blogs, apps, etc. As a result, employers are increasingly aware of the importance of encouraging learners to take a critical, analytical approach to information gathering.

Reflective practice is another phrase that is increasingly being used – people reflecting on what they are doing, why and the implications for them and other people. Rather than unquestioningly following one set route, people are being encouraged to consider other options.



### The practitioner's view

**Sukh Pabial, talent partner for a global data services provider**

I remember in my previous organisation where I worked, there was a particular team who got together purposely every month to do reflective practice, as a management team, about the work they did. And it was of huge value to them. They were experienced practitioners in the work that they did, which was around mental health care, and they would come together to discuss how they were doing the things they're doing and how effective they were.

“You’re looking at people being fundamentally challenged on everything they think they know and having to now spend time either proving or disproving this new theory that’s come out, in order to be able to find out what’s the best way forward.”

They weren’t discussing case work. It was a case of ‘It’s my practice as a practitioner and how am I doing? Am I taking the right kind of approaches? Am I thinking about things in the right way? Am I looking after myself in the right way? Am I supporting others in the right way?’

It could be useful to design into reflective practice how people do their jobs and their roles. Think about your traditional manual workers - how do you help them see the value in being able to sit down as a group, on a monthly basis, and talk through what they’re thinking and how they’re thinking about what they’re thinking?

### Resources

**Ebook:** Guide for evaluating information on social media  
<https://webliteracy.pressbooks.com/>

**Video:** Epistemic design and creating learning environments to foster epistemic growth  
<http://bit.ly/2eIEyxi>



## Tips for L&D

- Encourage learners to think about scenarios that involve conflicting perspectives
- Ask learners to think about the evidence for what they are thinking and doing and why
- Urge learners to take a critical, analytical approach to information gathering
- Create time for reflection to think through how things could be done differently
- Make challenging assumptions a positive in your team and organisation



“Organisations are increasingly aware of the importance of encouraging learners to take a critical, analytical approach to information gathering.”



“It’s about individualising the whole learning process and creating a much more engaged workforce. The ultimate aim is to get learners to take charge of their own learning better – to facilitate that and enable them.”





## Immersive learning

**With immersive learning, learners experience scenarios that feel like the real thing. This makes for a much more realistic, interactive and memorable learning experience.**

And not only do learners feel as if they are actually in a situation, experiencing the action as it unfolds, the simulations can also be designed so that the learner's actions and decisions influence the outcome of the situation. This is a significant step on from old-fashioned role play.

Modern immersive learning could take the form of a video game, using a virtual reality (VR) headset or gloves fitted with sensors, for example. Immersive learning is all about experience and exploration.

It enables people to put into practice existing skills and knowledge in a dynamic, interactive environment and it's a great way to find out the implications of actions in certain situations, to hone problem solving skills and to learn new skills.



### What impact is it having on workplace learning?

Immersive learning in the form of scenario-based simulations is something that has been in use for a while in corporate learning.

It's really good for providing point of need training and support, which makes it an attractive option to a lot of organisations. For example, there are oil companies that use VR to help fix problems in the oil pipeline by giving workers in the field access to expert advice that can help them sort out issues there and then.

This reduces the need for workers to carry out multiple visits. It's the same in other industries, such as engineering and IT.

The oil and aviation industry have always been quick to exploit the benefits of any kind of simulated learning and are always at the forefront of any new developments.

There are obvious benefits to learning how to respond to and overcome crisis situations but in a simulated environment, rather than only in actual, real life instances – hence the take up in the oil and aviation industries.

The trend that has been growing for the past few years is immersion using the likes of augmented reality (AR), virtual reality and mixed reality (MR).

These seem to be still in their early emerging stages as far as corporate learning is concerned, maybe hindered by a lack of understanding of the technology and costs.

There are, however, lots of opportunities for those in the learning space to try out the immersive experience at events and conferences, something that L&D practitioners need to be doing.



## The practitioner's view

**Lisa Johnson, organisation development manager for a large healthcare provider**

In my own network/community I can count on one hand how many chief learning officers and others in L&D are talking about immersive learning using AR, VR, and MR with any kind of deep insight or experience.

Whilst there hasn't been much talk of real business cases showing actual business value across your everyday corporate learning landscape, there are sufficient examples to whet your appetite to look at the potential of this type of learning technology/approach.



*In our industry we say don't let the technology drive the learning solution but in my experience, I couldn't really see where I would use something like AR or VR in my own role until I had experienced it.*



“Immersive learning is all about experience and exploration and enables people to put into practice existing skills and knowledge in a dynamic, interactive environment.”

Being immersed in a VR experience created an emotional connection I had never experienced before. I’ve been fortunate to try a VR experience that was built for a manufacturing company where the aim was to train new starters in the production process. Prior to the introduction of the VR experience, people were learning on the job through a process of trial, error and repetition, with an obvious cost to the organisation.

They invested in a VR solution and put new starters through this instead of the live environment. They reduced the time to competence and significantly reduced cost.

### Resources

**Article:** Virtual reality: the future of immersive learning for development  
<http://bit.ly/2zQwBP9>

**PDF:** Immersive learning and dental education  
<http://bit.ly/2hfg2l1>

**PDF:** Augmented reality and language learning: from annotated vocabulary to place-based mobile games  
<http://www.iltjournal.org/item/2961>



### Tips for L&D

- Immerse yourself in the experience to fully understand the potential
- Do your research - find out everything you can about immersive learning, what it means, how it works, what’s out there, how it’s being used, who is using it...
- Identify a real business problem where you think an immersive experience would really hit the spot
- Start small, test it, learn, refine and build



## Learner-led analytics

**Learner-led analytics is the use of data to help learners learn. The trend for learner-led analytics signifies a shift away from L&D just assessing what learners have learnt to focusing more on helping them to identify their own goals and ambitions and supporting them through their learning.**

Learner-led analytics also support learners to attain the goals they set. It's all about giving learners control of their own learning.

For example, once learners have identified their goals, they can decide what learning analytics they want to use in order to monitor their performance and achieve their goals.

Do they want to be an A grade student? If so, what learning analytics can they use to get them there? What pathway do they need to follow?

Are they happy to coast along and just achieve what they need to achieve in order to complete their learning?

If so, again, they can choose the learning analytics that will suit their level of ambition.



### What impact is it having on workplace learning?

We are still at the early stages of student-led analytics, partly because the software isn't perfect yet. Also, many L&D professionals still struggle with analytics in general and as a result, either shy away from them or don't make full use of them. However, take-up of all analytics, including student-led analytics, is increasing rapidly.

Using algorithms to determine the best, most targeted learning path for individuals enables learning to be very personalised. That's the way that learning is going – targeted, personalised learning that meets the needs of learners and the organisation they work for.

This shift in learning design and provision should lead to much better learner engagement and therefore, much better employee engagement overall. The ultimate aim of student-led analytics is to enable learners to take charge of their own learning path, as facilitated by their L&D department and employers.

Employers can also use student-led analytics to gain a deeper, more holistic understanding of the skills situation in their organisation – where the skills are, where the gaps are and any trends.



“Using algorithms to determine the best, most targeted learning path for individuals enables learning to be very personalised.”





## The practitioner's view

### Nigel Paine, change-focused leader and learning expert

Analytics will change learning and change the world and they have to be generated by the learner. We are in a data driven revolution. If you have the data and bring it together, you have a massively important picture of the learner and organisation as a whole.



*It's about individualising the whole learning process and creating a much more engaged workforce. The ultimate aim is to get learners to take charge of their own learning better – to facilitate that and enable them.*

It's like Netflix – as I log onto the interface, what it gives me is totally unique. It's the same with learning – the personalisation of learning through algorithms. For an individual it means this: what works for me and my needs and for my job.

That's the future. If you have a digital assistant, it will intelligently prompt you and shape your learning.

It will proactively nudge you – do you want to watch this Ted talk? Read this new blog? It's actually not very complicated really and Amazon have been doing these analytics for years. It's about the application of learning and there are lots of small apps that can do things for people.

Organisations and individuals can pick and choose which apps they use.

### Resources

A suite of tools at the University of Michigan, showing how students and teachers can make use of (student-led) analytics.

#### Digital tool:

<http://ai.umich.edu/portfolio/academic-reporting-tools/>

**Academic paper:** Towards actionable learning analytics using dispositions.

<http://ieeexplore.ieee.org/document/7839177/>



## Tips for L&D

- Be cynically curious. Talk to people, vendors and users. Take the approach of 'read, look, show me'
- Don't get an expert in. Get on top of it yourself. Work out if and how it would work in your organisation
- Don't believe the hype. Plenty of providers will tell you that they are the one, so be wary
- Explore the tools already available that provide this kind of data
- Be prepared to put learning in the hands of your learners



## Humanistic knowledge building communities

**Connecting people within an organisation to help them share ideas and collaborate more effectively is nothing new. What is new is the sophistication and range of the tools and techniques now at our disposal. Humanistic knowledge-building communities are about helping learners to develop knowledge, both individually and collectively. Humanistic learning focuses on helping people be highly creative, self-directed and open to experience.**

Knowledge-building communities focus on enhancing and sharing the collective knowledge in a community. Humanistic knowledge-building communities bring both strands together – the person-centred approach (humanistic learning) with the idea-centred approach (knowledge-building communities). Research demonstrates that this combined approach enables learners to really develop both their knowledge and themselves in ways that are really transformative.



### What impact is it having on workplace learning?

This particular trend is about using technology as an enabler to create a better connected and more engaged workforce, while also making work more human. The desire to connect and feel connected within an

organisation has grown exponentially. Email, whilst still the communicative backbone of many organisations, now has to compete with a variety of other tools that connect people in real time or in a more visual way that can support workflow and increase productivity, as well as helping people feel more engaged with their team. Tools like Slack have brought forms of personal communication like emojis and GIFs into the world of work to make messages more human.

Organisations are using humanistic knowledge building communities in different ways and for different purposes – to gain new ideas for a product, to help remote workers connect, to share best practice, to support general communication, and to gather feedback on initiatives.

However, organisations don't often realise that these tools and ways of working take time to embed. Communities of practice, for example, can take time to build up and only blossom when the mindset shifts from 'what's in it for me?' to 'what's in it for others?', where people are more open to sharing what they know because the culture supports, encourages and nurtures it. Working out loud circles and other initiatives around 'show your work' are a great way for organisations to support and encourage their workforce to be more visible in sharing what they are doing and creating humanistic knowledge sharing communities.



### Tips for L&D

- Use technology as an enabler to better connect and engage your colleagues
- Create a nurturing environment to give people the confidence to share what they know
- Be patient - it takes time to develop communities
- Remember, this is not about what you know, rather what your employees know
- Share what's working - success breeds success



## The practitioner's view

Mike Collins, digital learning and UX specialist for a large fashion retailer

Communities tend to work most effectively when there is a clear purpose, the people who are interested and will benefit from the community are clearly identified and there is a product in terms of what will be discussed, shared and what outcomes the community intends to provide.



*Understanding the challenges teams or departments face can really help understand how social and collaborative tools can be used. Some communities last for years and others may last just a few months.*



**“Organisations are using humanistic knowledge-building communities in different ways and for different purposes – to gain new ideas for a product, to help remote workers connect, to share best practice, to support general communication, and to gather feedback on initiatives.”**

The role of a community manager or guide is to add structure and support. They can almost play the role of coach. Acting as a connector in bringing people in to the conversation and encouraging them to participate in a forum can build confidence and competence in using the different types of collaborative tools.

Success breeds success so another way to build momentum and support is to share those successes as communities grow and develop.

Creating a safe environment for ideas to be shared can be tough in organisations where ‘command and control’ hierarchies are present.

However social tools, networks and communities of practice are fantastic ways to break down these barriers – one conversation at a time.

### Resources

PDF: Computer support for knowledge-building communities. The Journal of the Learning Sciences, 3(3), 265-283.  
<http://bit.ly/2xjibsf>


Resource list: List of resources about knowledge building and the Knowledge Forum:  
<http://bit.ly/2wQCTgu>



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