

# DIGITISATION OF PHARMA & LIFE SCIENCES:

**WHAT DOES IT MEAN  
FOR LEARNING?**

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**Digital transformation has already fundamentally changed the business landscape for industries including retail, banking and airline. Pharma and life sciences' own transformation is underway and they are seeking to integrate the digital technology advantage across all areas of their business. As evidenced by other sectors, failure to transform effectively risks long-term survival.**

We are already seeing the pharma business model transitioning to be leaner, more focused and with research in accelerating innovation. Gone are the days of the blockbuster drugs and huge sales forces. Companies are now looking to grow revenue streams from specialty products, biologics, digital services and precision medicine.

The giants of the pharma world are investing in partnerships with technology companies such as Apple, Google, IBM and Qualcomm to capitalise on the 'beyond the pill' business transformation. These partnerships move the industry beyond the role of medicine manufacturer to solution provider of products and digital services designed to transform patients' lives.

With this change, pharma companies need to transform their business models to enable them to more efficiently discover, research, make, market, sell, store, transport and monitor medicines, all the while coping with relentless pressures and demands. And so at the operational level, AI, automation, blockchain and other technologies are driving digital transformation to reap efficiency, planning and innovation acceleration gains.

We are seeing the **new pharma** landscape coming into clear view, and technology is its beating heart. Multiple areas across the industry are affected by this transformation.

- **Marketing and customer focus** on true patient-centric care are promoted by using apps and other digital services to monitor and support treatment effectiveness. The treatment now needs to suit the patient's lifestyle rather than the lifestyle being adjusted to suit the treatment
- **Supply chains** are lean, with few medicines stockpiled and demand monitored daily to ensure a balance of efficiency and availability
- **Manufacturing** is changing, not only through new technological forces increasing speed, driving down cost and globalising production, but new regulatory measures too
- **Macrotrends** within the healthcare industry, including technological advances (such as big data and the Internet of things), are exerting pressure on the medical affairs function to evolve from a support function to a business-critical, strategic function, who now act as the stewards of patient outcomes and value
- **The compliance environment** is increasingly regulated with pharma and life sciences among the most heavily regulated industries in the world. It is continuously changing in response to the effects of globalisation and harmonisation, emerging markets, increasing complexity of disease targets, introduction of new technologies and the rising sophistication and demands of both patients and regulators

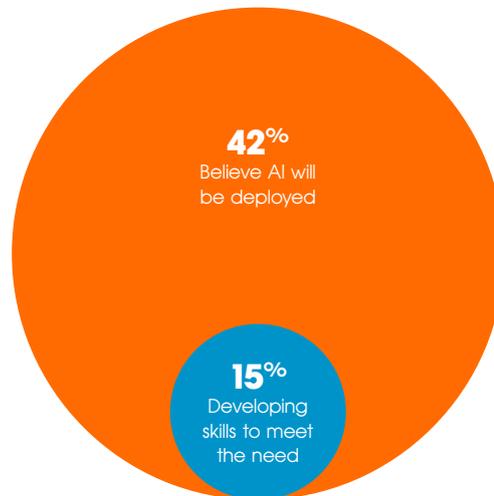
# DIGITAL TRANSFORMATION AND WORKPLACE LEARNING: IS PHARMA READY?

With business transformation comes the need to support workforces in keeping up with the changes and demands this progress places on their roles. Digital transformation is critical for survival, but even more so is the need to ensure continuously aligned mindsets, attitudes, perceptions and shared vision. Equally important is the need to change the **way** the organisation delivers learning to suit this fast-moving and challenging environment.

Across industries, skills are falling behind the technology, with the Josh Bersin report finding that 42% of companies believe AI and automation will be deployed within their company within the next 3–5 years, but only 15% have plans to develop skills to meet this need.<sup>1</sup>

By its very nature, learning technology is not exempt from this changing technological landscape and is experiencing something of a revolution.

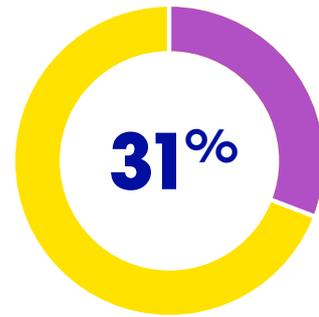
The learning technology revolution is ongoing across the spectrum of businesses and industries, with learning software being the fastest growing section of HR technology.<sup>2</sup> Pharma is in an advantageous position to take lessons from others on how to maximise learning through technology.



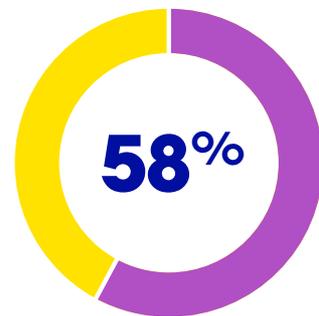
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# LEARNING, UNLEARNING AND RELEARNING

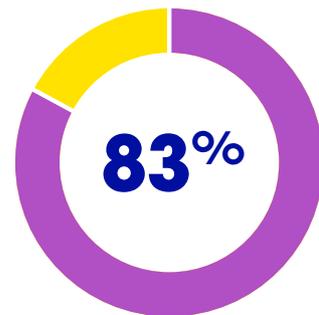
The way we learn is changing, as are the expectations for us to keep up-to-date with fast-changing knowledge and skill requirements. It is essential for us to be malleable and efficient when unlearning old practices to learn new. Think of the amount of jobs today that require skills that didn't exist 10 years ago, and imagine what the jobs in 10 years may require from us. It's just not possible to learn in advance for the roles of the future. As staff cannot stand still when it comes to learning, organisations are having to contend with continuous learning, reskilling and career mobility in a new way.



Companies that expect roles to be 3-5 years long<sup>1</sup>



Companies redesigning or planning to redesign their career model<sup>1</sup>

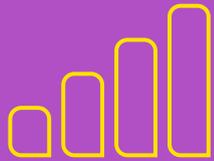


Companies that expect to have an "open" or highly flexible career model in the next 3-5 years<sup>1</sup>

"The illiterate of the 21st century are not those who cannot read and write, but those who cannot **learn, unlearn and relearn.**"

**Alvin Toffler**

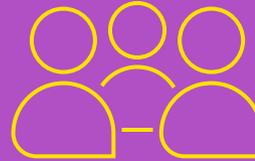
New research shows that, when done well, learning innovation also delivers business results.<sup>2</sup>



**24% increase**  
in productivity



**24% increase**  
in customer satisfaction



**18% reduction**  
in staff turnover

It's not only learning research companies, like Towards Maturity, that are seeing these results. McKinsey found that organisations that scored highly on their Organisational Health Index (OHI) dramatically outperform their peers.<sup>3</sup> Learning and capability are key outcomes when assessing organisational health and the ability of a business and its people to learn, unlearn and relearn. Across industries, learning is increasingly seen as a strategic function rather than a supporting one.

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1. Pelster B, et al. 2017 Deloitte global human capital trends. London, UK, Deloitte University Press, 2017. 2. Overton L, et al. L&D, Where are we now? Available at: <https://towardsmaturity.org/2017/11/27/ld-where-are-we-now/>. 3. Cagnon C, et al. Organizational health: A fast track to performance improvement. Available at: <https://www.mckinsey.com/business-functions/organization/our-insights/organizational-health-a-fast-track-to-performance-improvement>.

This new way of learning requires a paradigm shift in business training. The learning direction cannot all come from the top or from the L&D department. The modern learner needs to take some control of their own learning and take a personalised journey, focusing on the content that is relevant to them and their professional growth. There is also a need to make real-time learning that encourages problem solving and upskills employees on the go.

This theory is backed up by a 12-year study run by Jane Hart,<sup>1</sup> which looks at the most popular tools for learning in the modern workplace. Her results showed that:

**1.** For modern professionals, learning is not something that happens just in education or training, but happens in many different ways every day, both inside and outside work

**2.** Modern professionals also learn:

- **Intermittently** – through training and other educational events
- **From time to time** – as and when needed
- **Continuously** – daily or very regularly

**3.** Modern professionals also learn for many different reasons, not just because they have to – to become competent, conformant or compliant in their organisation – but because they want to, for their own personal and professional reasons



Luckily that paradigm shift has already happened for us (the learners). We already use technologies like YouTube, Google, Maps or Wikipedia to give us short, sharp, up-to-date information to solve an immediate problem. When was the last time you bothered to remember a phone number or directions? We know we will have them as we need them.

This is a 'pull' learning style and is gaining a lot of ground over the more traditional pushed learning, where learners are assigned whole subjects to learn from the ground up.

## ↙ PULL LEARNING



Learner directed

Problem focused

Easy to access

Bite sized

Directly useful

**I NEED TO SOLVE  
A PROBLEM NOW**

## PUSH LEARNING ↗

Assigned learning

Long courses

Coaching and  
support

Theory, principles

May be useful  
in the future



**YOU NEED TO LEARN  
SOMETHING NEW**

This is not to say there is no place for push learning, but we need to integrate both into the learning programmes of the future.

The challenge that pull learning presents is that it is harder to deliver and keep track of multiple small learning assets. These assets also tend to come from a variety of sources, so curating them into a logical order can take time and effort. This is why it is important for organisations to examine their learning ecosystem.

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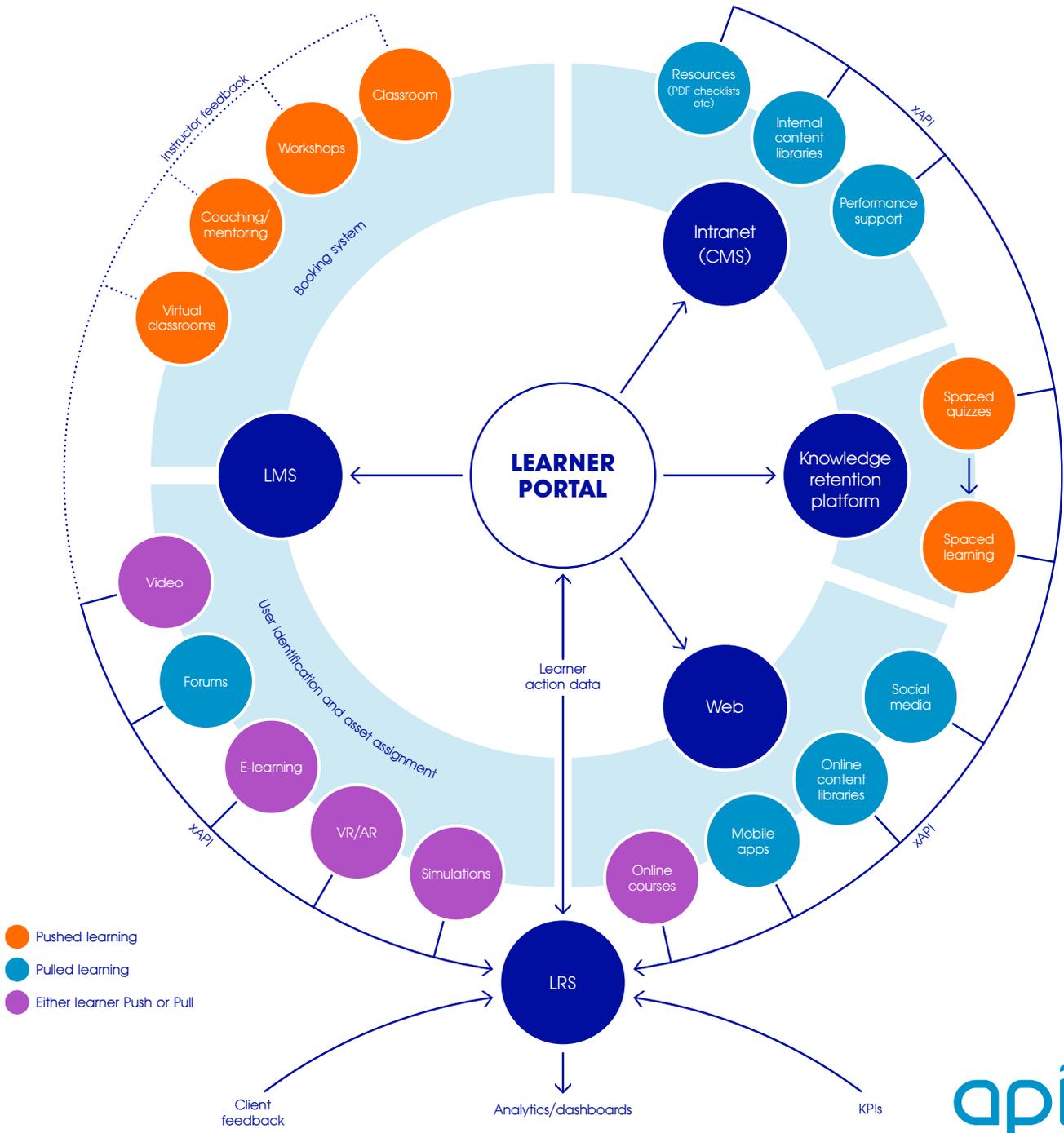
# OPTIMISING YOUR ORGANISATION'S LEARNING ECOSYSTEMS

By **learning ecosystem** we mean a system of people, content, technology, culture and strategy, existing both within and outside of an organisation, all of which has an impact on both the formal and informal **learning** that goes on in that organisation.

Any large organisation will have a learning ecosystem of some description, whether it has been thought through or not. Most learning ecosystems are disjointed, as organisations adopt a slew of learning solutions using a number of platforms, authoring tools and learning resources to keep up with the demand in learning and learning flexibility. The problem is that this has usually been done in an ad hoc manner, leaving many in a position where they have a lot of content sitting on different systems. This means that the content is at risk of disappearing from the workflow. Often an organisation's most useful resources are buried deep within their own systems.

The first step in any learning strategy is not to look at what new content can be made or what fancy new technology can make that content look great, but to take stock of what you have, what works well and how you can bring it together and streamline it in a learning ecosystem.

Focus is often on the Learning Management System (LMS) as the centre point of their learning, usually due to the need to prove compliance to a regulator. Whilst this is crucial, it limits the natural way learners want to look for and absorb information, it can be a poor way to deliver training that solves workplace problems. By using a Learning Record Store (LRS) it is possible to measure learning from multiple sites (including the LMS) while retaining the necessary audit footprint.



- Pushed learning
- Pulled learning
- Either learner Push or Pull

# CREATING AN EFFECTIVE LEARNING ECOSYSTEM

Many large organisations have picked up disjointed bits of learning technology over the years and now find themselves in a position where they have the learning software in place, but aren't using it effectively. To create a fully integrated, functioning learning ecosystem, there are a lot of aspects that you need to look at. These are things like the learner, attitude to learning, blend, online content, content delivery, strategy, technology and measurement of impact.

There is a common path to an organisation's learning ecosystem's maturity, from disjointed to integrated. You may be at different levels for each aspect of these but the table opposite shows how the progression generally goes.

## DISJOINTED ECOSYSTEM



## INTEGRATED ECOSYSTEM

### LEVEL 1

Scattered online learning with limited uptake. User training activity is measured

### LEVEL 2

Good content with engaging learning experiences and useful resources, but no overall strategy for delivery. Knowledge transfer and behaviour change is measured

### LEVEL 3

Engaging learning with learning experiences and resources that are delivered strategically to meet individual needs. Business impact is measured

### LEVEL 4

Total integration of learning and work where the learner can pull training and resources as and when necessary. Advanced analytics show business impact and learner trends

**DISJOINTED ECOSYSTEM**

**INTEGRATED ECOSYSTEM**

	<b>LEVEL 1</b>	<b>LEVEL 2</b>	<b>LEVEL 3</b>	<b>LEVEL 4</b>
<b>LEARNERS</b>	<b>PASSIVE</b> Receive learning assigned to them on an ad hoc basis	<b>PASSIVE</b> Receive learning that follows a one-size-fits-all learning journey	<b>ACTIVE</b> Given personalised learning but also manage their own learning pulling content and sharing	<b>IN CONTROL</b> Manage their own learning with suggestions from intelligent systems
<b>ATTITUDE TO LEARNING</b>	<b>NEGATIVE</b> Learners want to get training over and done with to carry on with their day	<b>INDIFFERENT</b> Learners choose pace of their learning to fit it around their day. Seen as a part of their week's 'work'	<b>POSITIVE</b> Learners see learning as integrated to their role and seek out new learning opportunities	<b>VERY POSITIVE</b> Learning totally integrated into a learner's day. Seen as important and continuous
<b>BLEND</b>	<b>NON-EXISTENT</b> Online and face-to-face learning totally separate	<b>BASIC</b> Online learning and face-to-face are used together in the correct sequence	<b>ADVANCED</b> Coaching and face-to-face integrated with the personalised learning journeys	<b>COMPLETE</b> Online learning, face-to-face, coaching and mentoring seamlessly mesh together
<b>ONLINE CONTENT</b>	<b>DISJOINTED</b> Piecemeal, discrete online learning No obvious organisation a lot of overlap Boring knowledge dumps	<b>DESIGN FOCUSED</b> Well-designed learning experiences and resources Some micro-learning experiences	<b>DELIVERY FOCUSED</b> Resources and other learning experiences tagged by content and competency allowing easy assignment of the correct learning to learners Mainly micro-learning experiences	<b>PROGRAMME FOCUSED</b> Bite-sized learning experiences which can be 'mixed and matched' to create individualised learning programmes Tagged and catalogued correctly
<b>DELIVERY</b>	<b>AD HOC</b> Pushed Learner gets an email generated by the LMS Set deadlines for learning	<b>ORGANISED</b> Pushed Dedicated learning academy with an intuitive and easy-to-follow learning path One-size-fits-all learner path Elective resources and online learning available but not suggested Available on the go and at the point of need	<b>PERSONALISED</b> Pushed and pulled Dedicated online learning academy with personalised learning path Learning path based on learner diagnostics and learner role Content pulled from multiple locations Other resources and online learning suggested based on learner role and department Curated content	<b>INTEGRATED</b> Mainly pulled Online learning centre which pulls content from multiple locations Suggested learning based on learner's profile, preferences and previous actions Other resources and online learning suggested based on learner's activities and preferences
<b>STRATEGY FOCUS</b>	<b>RESPONSIVE</b> No business strategy, just responding to immediate needs	<b>COMPETENCY</b> Learning designed to plug competency gaps	<b>BUSINESS</b> Business outcomes first	<b>LEARNER AND BUSINESS</b> Shared vision by learners and business to shape learning
<b>TECHNOLOGY</b>	<b>BASIC</b> LMS SCORM Documents (PDFs and Word etc) Videos	<b>DESIGN</b> Learner academy site Mobile learning Video authoring Gaming VR/AR Simulations Workflow learning	<b>EXPERIENCE</b> Learner diagnostics Automated content assignment Social learning/forums Spaced delivery Learner experience platform Content curation Knowledge retention platforms xAPI	<b>ADVANCED</b> AI LRS Machine learning Chatbots
<b>MEASURING IMPACT</b>	<b>ACTIVITY</b> Measuring completion of learning and immediate knowledge uptake	<b>BEHAVIOUR</b> Measuring knowledge retention and learner competency growth Learner behaviour change as a result of learning	<b>BUSINESS IMPACT</b> Measuring business impact of learning	<b>ADVANCED ANALYTICS</b> User trends and preferences and their impact on behaviour and business objectives

# HOW DO WE DELIVER FLEXIBLE, MODERN LEARNING WITHIN **THE PHARMA AND LIFE SCIENCES INDUSTRIES?**

Everyone in the pharma and life sciences industry is having to learn more information and adapt to change more rapidly. Historically, training has focused on communicating highly technical subject matter and has traditionally been delivered using mainly face-to-face or one-size-fits-all information dumps. However, the need to deliver a flexible, modern learning model as described above means it is no longer feasible using these methods.

It is true that the pharma industry has more challenges than others due to the regulatory landscape it occupies. Internal training and external medical education need to adhere to strict regulatory requirements and scientific rigour. But other industries face very similar challenges regarding regulation, such as oil and gas and financial services. These industries have also undergone significant transformation, and as a result have dramatically modernised their approach to workforce learning.

A report by Towards Maturity<sup>1</sup> found that the **top e-enabled skills across industries are:**



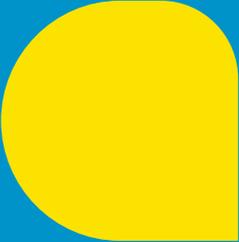
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None of these are industry specific and could be relevant to all pharma and life sciences. Manufacturing, supply chain and product knowledge are also areas where online and blended learning can be a powerful tool.

Beyond the common aspects of all industries, the pharma and life sciences industry has to respond to its own unique set of challenges, such as:

- Growing market complexity, digital technology, the shift from volume to value and an evolving customer base means there are **new and expanded competencies** for key roles
- The patient-centric business model, which requires changes to culture and business models and not just marketing exercises
- Technology advances requiring **enterprise-wide 'know how'** on connecting with customers and patients, delivering operational efficiencies, monitoring supply chains and capitalising on innovation opportunities in R&D
- The perception of regulatory compliance as a set of rules and restrictions, rather than a personal, ethical commitment that enables the organisation to deliver on its promise of delivering transformed patient lives
- Manufacturing and supply chain being squeezed, requiring people to know what is happening and have the information at their fingertips in this highly complex and business critical area

Using the right technology, the right learning design and deploying it in the right way will not only meet all of these challenges, but create new opportunities to drive better patient care, increased efficiency and profit, not to mention the beneficial effects on staff motivation and engagement.



# SUMMARY

As with all industries, pharma needs to meet the requirements of a diverse variety of learners, across different business areas, including research, manufacturing, product development, clinical trials and market access. While pharma and life sciences can learn a lot from what other industries are doing, they are more highly regulated than most industries. This can make content development and deployment a challenge, and the instinct is to 'play it safe', leaving a lot of companies in a cycle of creating large knowledge dumps, which few employees engage with but the regulators are sure to pass. This method of content creation and delivery is no longer feasible in the context of the changing technological and regulatory landscape. As the world changes and expectations change so too must the way we learn and teach.

There is no reason given the right amount of knowledge and experience in the pharma and life sciences industry that training can't be made more flexible,

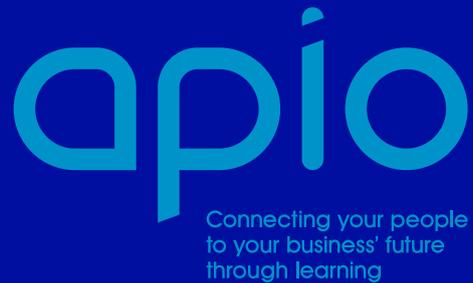
personalised and action focused, whilst still conforming with regulatory guidelines. After all, the training is being created for a purpose – to elicit positive behaviour change and optimise performance – if no one is engaging with the training, there is no reason to spend the time or effort making it in the first place.

As with every other area of life and work, digital technology is fundamentally changing the way we approach learning. Not only do we have the ability to get information out to people as and when they need it, we also have the ability to measure the impact that learning is having on business outcomes. Using agile learning ecosystems and techniques, learning can now permeate working life on a daily basis.

The major challenge is that learners will hold any technological intervention to a high standard, so for a digital learning transformation to be effective, it needs to be done right.

There are a few things you can start doing to create a learning ecosystem that suits a modern audience:

- 1.** Find out how people in your organisation are looking for learning – it is rarely through the LMS. Check search terms used, Google Analytics and send out surveys on how people access learning. Once you know their habits, you can create learning to fit into their day
- 2.** Don't underestimate the power of informal learning and don't ignore it – find a way to document and measure it so you have a clear idea of the ecosystem in your organisation
- 3.** When creating any new training, make sure you are solving a problem that needs to be solved and not just pushing content
- 4.** Identify what you want your people to **do** as a result of the learning and find a way to measure it
- 5.** Create learning that is short and searchable – any video over 5 minutes is unlikely to get watched and any online learning over 15 minutes probably won't be completed



apio is the first workplace learning company dedicated to the pharmaceutical and life sciences industry, providing clients with expert sector and workplace learning approaches that work for their unique environment.

We enable clients to realise the value of modern workplace learning programmes that connect the needs of the business to those of its people. apio sits within Ogilvy Health, part of WPP Health Practice.

**Contact:**

Did this article connect with you? If you'd like to discuss your workplace learning challenge with us, please contact [laura.ansloos@apiolearning.com](mailto:laura.ansloos@apiolearning.com).

**We'll start by listening.**

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