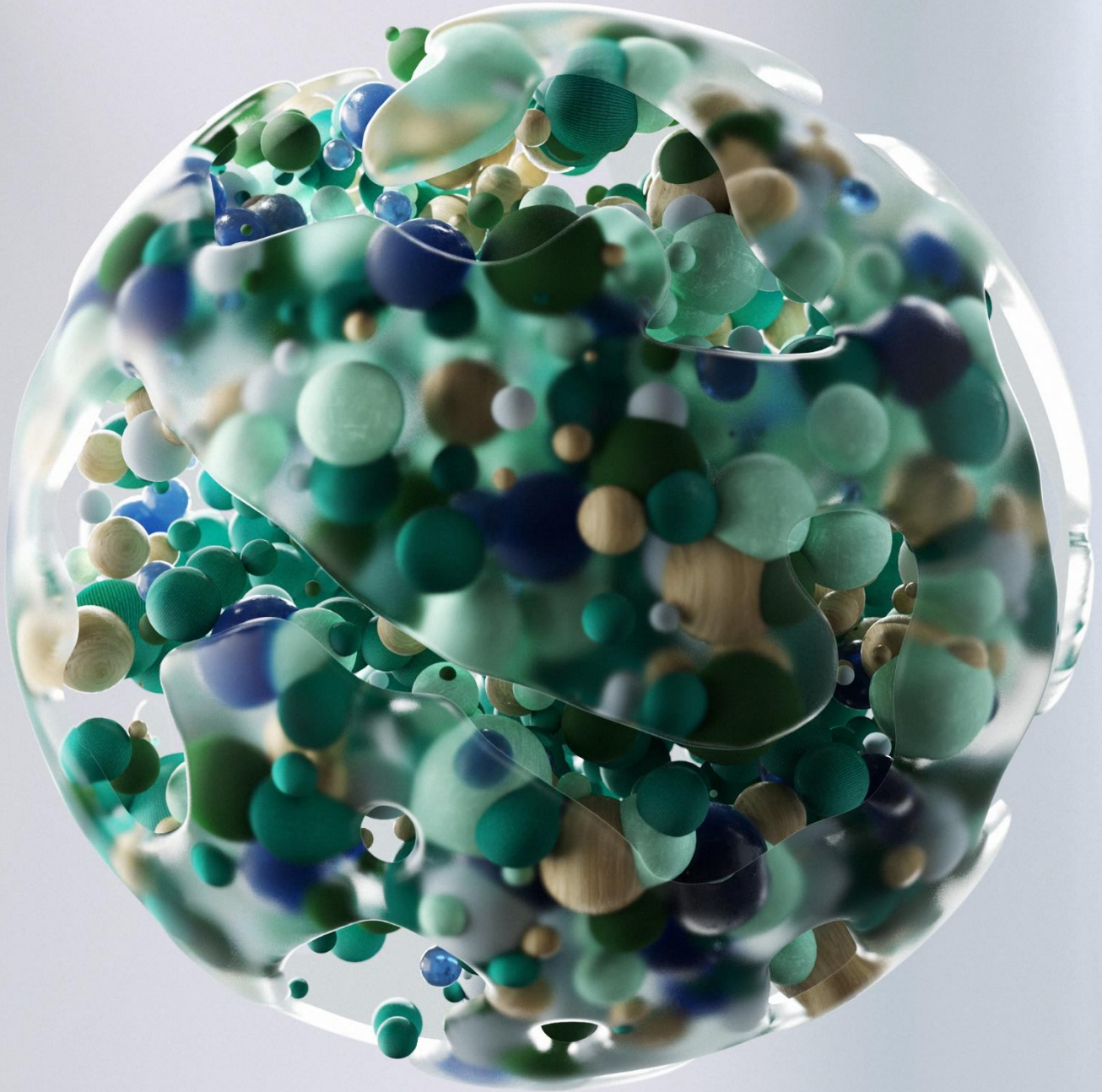# Deloitte.

Are you ready for Generative AI?
A guide for Learning & Development teams

Deloitte AI Institute

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Generative AI can **mimic the human creative process** by creating novel data similar to the kind it was trained on, **elevating AI from enabler to collaborator**.

Deloitte Insights

Generative AI is rapidly gaining momentum, demanding a business response

The basics

Let's start with the basics. Artificial intelligence (AI) is an umbrella term used to describe multiple technologies and methods that are in some way trying to replicate an element of our human intelligence.[1]

The main difference between *traditional* AI and *Generative* AI (Gen AI) is that the latter's output is far more complex.[2]

Gen AI uses AI Foundation Models, like OpenAI's GPT-4 and NVIDIA's Megatron, which are trained on vast amounts of data to perform a broad range of tasks in response to a prompt. For example, Gen AI can quickly use publicly available information to create original content across various modalities (e.g., text, images, audio, code, voice and video); content that would previously have taken a human precious time and expertise to create.

Gen AI has recently been propelled into the zeitgeist, driven by innovations in machine learning and cloud tech stacks, coupled with the viral popularity of apps like ChatGPT and DALL-E2. Big Tech is also building—and enabling access to—Foundation Models; start-ups are developing user applications on these underlying models; and companies are beginning to adopt.[3]

So, what's the buzz on Gen AI?

Generative AI could transform business models, processes and value dynamics – and change how individuals work, learn and interact

less than 1%
of people know how to code. Yet, software is integral to many businesses and business models today

If harnessed strategically, Gen AI can democratise coding and reduce the gap between ideas and revenue. How? By synthesising product requirements, converting prompts to code, auditing code to find and address bugs, suggesting code optimisations and proactively provisioning environments optimised for test and run use cases. [4]

The market for Generative AI will likely double every two years for the next decade. Numbers aside, we believe the economic impact could be far greater. [4]

~ $200B
is the estimate market for Generative AI by 2032. This represents ~20% of total AI spend, up from ~5% today

Generative AI is exploding in popularity. Organisations that don't explore how it impacts their roles will quickly be left behind

AI sometimes increases the level of difficulty and complexity of work since AI systems often handle the easier tasks, seeking input from the humans on the more complex ones

only 5%
of leaders strongly agreed that they're investing enough in helping people learn new skills to keep up with changes like digital transformation

To address this issue, organisations are focused on upskilling or reskilling people to take on harder work, including arming workers with "digital or AI fluency" so they can interact with AI.[5]

Using AI for Learning & Development projects isn't new

The opportunity is how L&D will use AI to do things differently AND do different things

The best way to think about how L&D teams can use Gen AI is over two concurrent waves:

Wave 1: Doing things differently

The first wave is where L&D teams begin to explore Gen AI and understand the ways in which it can be used to deliver differently – with a keen focus on leveraging efficiencies enabled by Gen AI, such as doing things faster or cheaper. As teams do things better and differently more of the time, they will be able to identify where Gen AI can add the most value to the function, L&D team members and learners.

Wave 2: Doing different things

In the second wave, the focus for L&D teams will move towards doing entirely different things. Having honed the way activities are completed in the first wave, this second wave is where exciting innovation happens. L&D functions will challenge their viewpoints on what constitutes L&D and pursue new ways of working with business stakeholders.

## L&D teams already use AI in a few ways today...

- Some use AI for administrative and scheduling assistance

- Some use AI chatbots for coaching and simulations

- Some use AI in Learning Experience Platforms to categorise learning based on engagement, language recognition, trending topics, etc.

Now, with Gen AI, transformation can be accelerated

In future, L&D teams can change the way they work with Gen AI...

- Faster production and delivery for learning designers

- Greater measurement of data and faster storytelling with data

- More L&D professionals empowered to validate information and build upon their domain expertise, rather than create from scratch

- Content designers supported by AI-generated images, videos, narration, edited videos and music compositions

- Delivering learning in a more personalised way, using avatars, customised environments or a unique experience for the learner

- Automated accessibility checks to ensure inclusion

- Saving time on lower value administration and scheduling tasks

- Accelerated data synthesis and meeting transcription, resulting in faster production of key insights from subject matter experts and learners

- Incorporating Gen AI tools into learning experiences to support learners to use Gen AI confidently in their daily role.
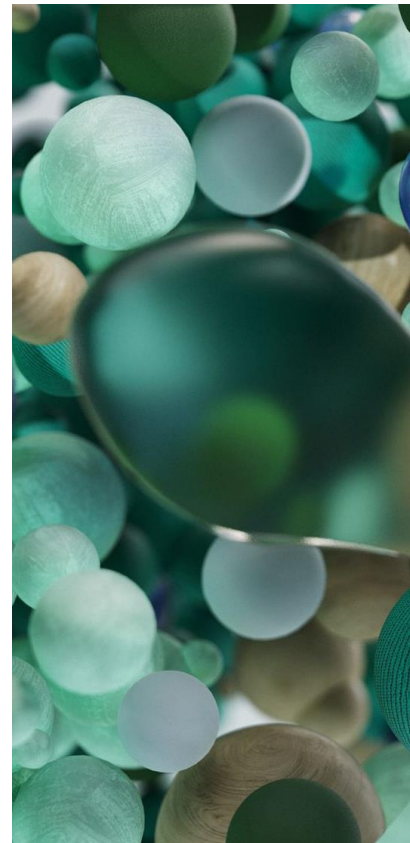
Questions for L&D teams:

1 How can we use Gen AI to strategise, design and develop learning more efficiently for better return on investment?

2 How can Gen AI help us design and deliver creative learning experiences?

3 What should we be mindful of when leveraging Gen AI for learning?

4 What new skills do L&D professionals need to operate with Gen AI?

5 What new skills do learners need to learn and develop with Gen AI?

Let's take a closer look at how the full L&D lifecycle can be improved by Gen AI

Key L&D use cases

Gen AI will impact most activities across the learning function lifecycle. We have considered how learning teams can bring efficiencies to their work by using Gen AI, summarised below. Our focus was on identifying use cases where Gen AI can create a first draft for validation by subject matter experts.

1. Discover

- Writing survey questions
- Analysing and theming publicly available data
- Summarising articles, thought leadership and publicly available content to rapidly upskill learning designers
- Understanding learning topic areas relevant to different learner groups
- Summarising learning providers and content repositories available (up until the cut-off date for knowledge and for human review and quality assurance)

2. Design

- Summarising best practice learning research
- Summarising and/or sourcing instructional strategies
- Generating key topic areas for particular roles aligned to inputted identified capabilities (for validation with SMEs)
- Drafting behavioural descriptors aligned to mapped proficiency levels of capabilities
- Turning data analysis and insights into content for learners
- Creating learning objectives
- Creating learning outcomes
- Providing activity suggestions
- Developing learning pathways

3. Develop

- Creating customised animations
- Creating customised videos using b-roll and existing footage
- Providing video summaries
- Creating images from text
- Generating role play scenarios
- Generating activity templates and structures
- Generating slogans/titles and other phrases to name content

4. Deliver

- Coaching supported by chat bots
- Delivering learning using by avatars and chat bots personalised to an individual's role or persona type
- Embedding personalised education moments in environments where learners consume content, e.g., collaboration channels, knowledge repositories, etc.

5. Evaluate

- Generating sample answers to test learner knowledge
- Generating evaluation questions
- Generating capability assessments
- Providing learners with generative AI outputs and asking them to critique them

Important note: Organisations will need to implement a quality assurance model across the learning lifecycle to fact check and refine Gen AI outputs.

Some L&D activities can be automated, enhanced or diminished by using Gen AI

AUTOMATED:
Eliminating the need for human intervention entirely (>80% impact on tasks)

Activity	What's changing?
• Learning communications and campaign management • Learning Management System administration • Testing learning systems • Defining learning objectives and outcomes • Learning accessibility checks	• More operational and administrative tasks can be automated through a range of platforms. • Campaigns and communications can be created faster through generative AI and be automated and tailored to specific groups. • Generative AI chat bots can create learning objectives and outcomes to be validated by subject matter experts.

ENHANCED:
Simplifying work to create more efficient processes (10-40% impact on tasks)

Activity	What's changing?
• Learning needs analysis and skills gap analysis • Learning content design • Learning strategy, learning measurement strategy, operating model and governance model • Undertaking QA process • Delivering scenario-based simulations • Providing coaching	• Gen AI chat bots can summarise research and make comparisons in an industry context. Gen AI can also instantly summarise long reports. • Gen AI can analyse skills, completion and job advertisements to predict the learning content that might be useful for learners. • Insights from AI-powered data analysis can be more efficiently used as inputs to learning needs analysis. • Gen AI chat bots can support learning content design by providing easy summaries of suggested curriculums and topic areas. This will uplift the focus on collaboration with subject matter experts to validate recommendations.

DIMINISHED:
Significantly accelerating outcomes (40-80% impact on tasks)

Activity	What's changing?
• Conducting best practice research* • Learning data analysis* • Designing scenario-based simulations* • Assessing capability and learning design • Implementing capability and learning • Delivering train the trainer • Learning content curation and bespoke pathway development	• Gen AI chat bots can surface resources and summarise articles to support with ideas and execution in line with best practice. • They can also design simulations and case studies for different user personas. • A variety of AI tools can support with the data analysis of learner and subject matter expert inputs, including survey data and transcripts of meetings for qualitative feedback. • Learning pathways can be designed for specific users detailing the sequence of activities.

L&D professionals need to learn new skills too

New technology comes with new skills

We've summarised some of the new skills L&D professionals will need to build to make sure they unlock all the benefits Gen AI has to offer to them, learners and the organisation.

AI and digital fluency

L&D teams should understand the role of AI, how it works and be able to explain its potential role within their work. When AI-fluent L&D practitioners can analyse the use cases relevant to their work they can create materials, measure impact and pivot more quickly.

Prompt engineering

The quality of the inputs and prompts given to Gen AI tools will determine the quality of its outputs. The better the prompts L&D practitioners create, the better the outputs created by Gen AI.

Experimentation

L&D practitioners should be curious and looking at each decision made with Gen AI as an experiment that will expedite impact and generate new insights.

Quality assurance

As covered earlier, Gen AI is not without its limitations and L&D practitioners should adopt a quality assurance mindset to validate Gen AI outputs with subject matter experts. Effective L&D practitioners should only use Gen AI as a starting point, not the end product.

Critical thinking

Practitioners will need to leverage critical thinking skills when working with Gen AI, with the ability to scrutinise answers provided, re-engineer prompts and make amendments to the outputs.

Adaptability to challenge the norm

Both individuals and L&D teams will need to build their muscle for change, including a mindset shift to evolve from doing things differently, to doing different and new things. Adaptable L&D practitioners regularly ingest new information, test new approaches and can challenge the norm.

Identifying use cases and influencing stakeholders

L&D teams are already adept at identifying learning needs. They will also need to build skills in identifying AI and Gen AI technology solutions that address these needs and influence business stakeholders to support its uptake in learning programs.

L&D teams should be aware of Gen AI's limitations while exploring its potential

So, what are some of the risks?[2]

Generative AI is in its infancy and not without risk. Some of the most important risks to address relate to privacy and security, managing bias, transparency and traceability of results, IP ownership, and equal access – especially for those at greater risk of job displacement. To get the best results, teams should collaborate with stakeholders, technologists and business users to identify and mitigate risks. Users should also leverage Gen AI with knowledge of its limitations, including:

Hallucination	Bias	Lack of human reasoning	Limited context window
Generative AI systems create confident responses that cannot be grounded in any of its training data	Similar to other learned models, Foundation Models inherit the bias contained in the training data	Systems are based on statistical features, which is not a solid foundation for logical reasoning	Current models have a context window of a few thousand words, limiting the combined input and output of the model.

When you should avoid using Gen AI

1 When you can't access the expertise to verify that the output is accurate

2 When the output of the content is reliant on it being correct

3 When inputting sensitive or confidential information

Deloitte's Trustworthy AI Framework
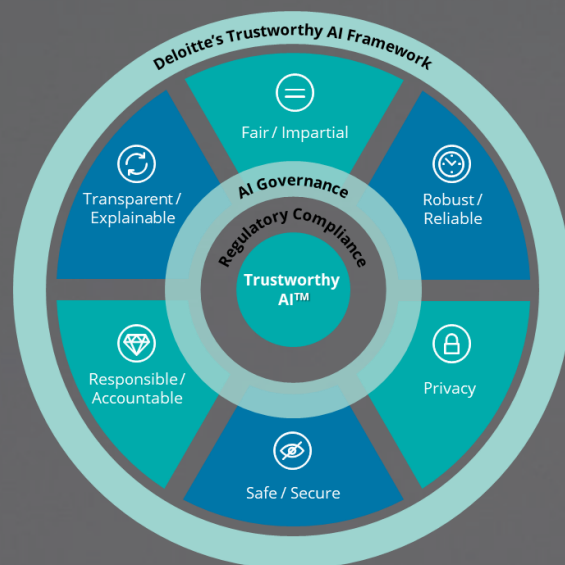
How we think about working effectively with AI at Deloitte

At Deloitte, we believe the journey to the sustainable use of AI is through governance and management of risks across people, processes, and technology. We have developed a Trustworthy AI Framework which emphasises the importance of AI being ethical, lawful and technically robust.

For more information visit Deloitte's Trustworthy AI webpage.

We help L&D teams leverage the power of Gen AI

Deloitte is passionate about making work better for humans, and humans better at work.

We are actively experimenting with and adopting Gen AI ourselves in different areas of the firm, testing and iterating as we go to make sure it is adding value to our clients, our people and how we operate. We are also mapping out how we can set L&D teams up for success to deliver high impact learning programs for existing and future tech-savvy employees, including:

Building AI fluency, through helping L&D teams identify what the technology is, what it can/ can't do, and how to start using it in a safe and impactful way (both in the immediate and medium term). We offer bespoke Executive briefings and AI and Gen AI Fluency Labs for L&D. Find out more here: https://www.deloitte.com/au/en/Industries/technology/perspectives/the-deloitte-ai-fluency-greenhouse-experience.html

Developing Gen AI strategy and roadmaps for L&D teams, as well as other business areas, to make sure that Gen AI can be used to fuel business transformation

Re-designing learning strategies and operating models, so your L&D team can respond to the changing footprint and specify how to embrace Gen AI safely and continue to thrive

Running and building prototypes, for you to test so you can explore how you can enhance learning moments in your organisation

Providing frameworks, tools and templates to enable effective use of Gen AI throughout the L&D end-to-end lifecycle

Exploring the impact of generative AI in the context of each unique learning program

Experimenting at pace, for example you can access our Gen AI Factory which will deliver proof of concept and pilot co-design and development all the way through to scaled execution for different areas of your business.

Key contacts

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Learn more:

Deloitte: So, what is AI?

Deloitte: Generative AI is all the rage

Deloitte: Generative AI: A New Frontier in Artificial Intelligence

Deloitte: A new frontier in artificial intelligence - Implications of Generative AI for businesses

Deloitte: Strengthening the bonds of human and machine collaboration

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Footnotes:

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