purplemedia

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LEARNING TECHNOLOGIES WHITE PAPER

AI + HUMAN = ?

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01

THE FUTURE OF LEARNING?

Over the last 20-30 years, the digital learning industry has been at the forefront of a technological evolution that's transformed the way we work, communicate and interact with content. As we've been creating digital learning, apps and platforms for more than 20 years, we've seen and experienced the majority of that change. Indeed, we've championed innovation at every stage: from the introduction of interactive DVDs back in the early 2000's, to Augmented Reality, Virtual Reality and truly responsive mobile learning.

Yet the current moment, with the ever-growing power and influence of AI, feels more significant than any other: the pace of change is amazing, and the variety, quality and accessibility of tools and techniques available to us is greater than ever before.

Yet, their availability and adoption present traps and pitfalls, as well as opportunities - especially with respect to something as powerful as Artificial Intelligence. We've seen so many false dawns, where the promised potential of new technologies is not ultimately delivered. Even now, so much of the digital learning we see seems trapped in the early 2000's in its design and interaction. So much 'mobile learning' and 'responsive' content is little more than scrolling websites with videos and 'multiple guess' quiz questions.

So, at this critical point of evolution – maybe transformation – there are questions we need to ask ourselves about where digital learning is headed. **What do we want the future of learning to look like? What don't we want it to be?**

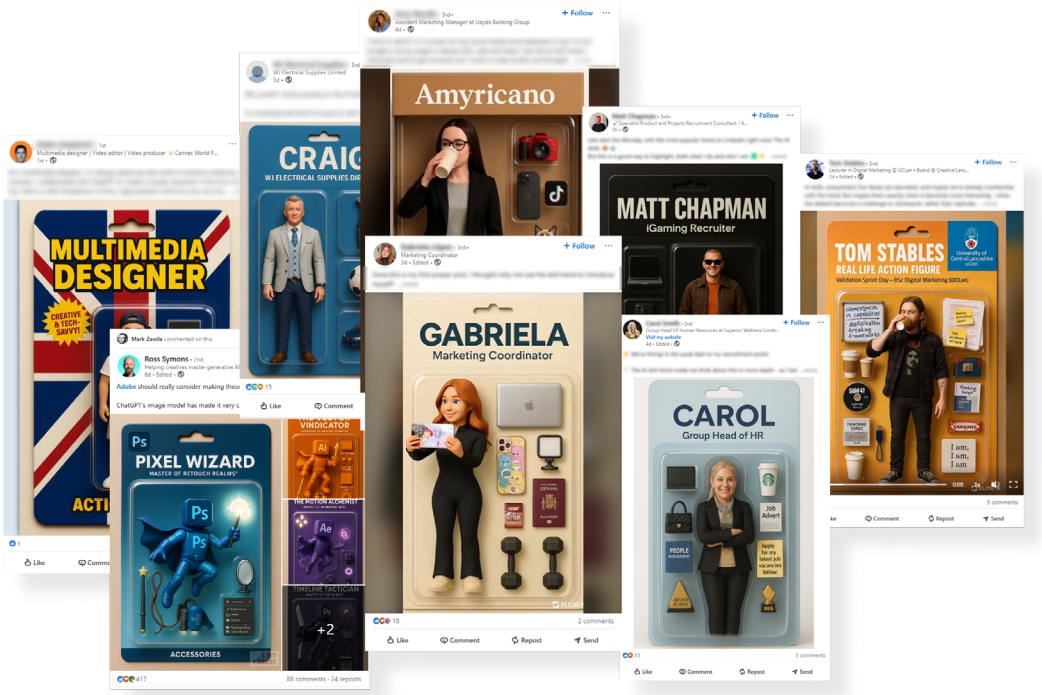
One example of what, I hope, we can agree that we don't want the future of learning to look like, is this:

Yet this simple example demonstrates both the huge potential benefits, and huge potential risks that AI presents.

On the one hand, using only Chat GPT and a prompt I downloaded from a YouTube video, I was able to generate in less than five minutes a graphical image that I would not have been able to make myself, unaided, in about five weeks.

Even a good graphic designer or illustrator would have likely taken several hours to create this image, from scratch, using traditional digital creative tools. So, the transformative impact of AI means I'm suddenly empowered to produce things that were never previously within my capability, and to do so within timescales that were never previously possible. However, on the other hand, so is everyone else.

> "What we end up with is less originality and less creativity, not more of it"



These tools are available to everyone, at low or no cost. As a result, at the time of writing, social media – especially LinkedIn – is chock-a-block full of everyone proudly sharing the action figures they've generated. And that's the first potential risk: if everyone is using the same tools, what we end up with is less originality and less creativity, not more of it.

But why is that the case with AI? After all, most graphic designers and filmmakers use the same creative software, without all ending up with identikit work. Even programmers are all using a suite of the same coding languages.

The reason is that it's not just the ubiquity of the tools that risks making our content generic, it's how we all use them.

> "I'm not actually making anything … I'm asking for it to be made"

In producing my action figure image, I'm not actually making anything myself at all: I'm asking for it to be made. The output depends on what I ask the AI tool to do (the 'prompt' that I use), and if we're all sharing and using the same prompts, then effectively everyone is asking those tools to do the same things, and we'll all end up with variations of the same content: less creative, not more.

If we want to use AI to produce great, original content, we need to make sure that we're in control - and we're properly and creatively directing the tools we're using. That's a big thing that we need to get our heads around, and if you have any experience in running or directing a team – let alone a creative team – then you'll know how challenging that can be.

> **AI is not original. It presents you with an amalgamation of pre-existing content, re-shaped to match your request**

There's something else we need to consider: AI is not just a regular tool – it's not a blank page waiting for us to fill it – it's a ready-made library of other people's work, ready to be mashed up and re-presented to match (in the best way it can) what we've asked for.

So, fundamentally, AI is not original. It's simply presenting back to you an amalgamation of pre-existing content: a summary of what's already there, re-shaped to try to match your request (and likely an average summary at that). It's plagiary, and it's only going to get worse if we leave it up to AI to make the decisions.

02

JUST BECAUSE YOU CAN, DOESN'T MEAN YOU SHOULD

This newfound ability for everyone to **generate (not create!)** a wide range of different media and outputs also poses a more subtle risk. It's an old saying, but just because everyone now has a camera, it does not mean everyone is a photographer.

When using AI to assist your content development, the same considerations should still apply as they would with any good learning design, including: what's the best medium for delivering the message I want to deliver?

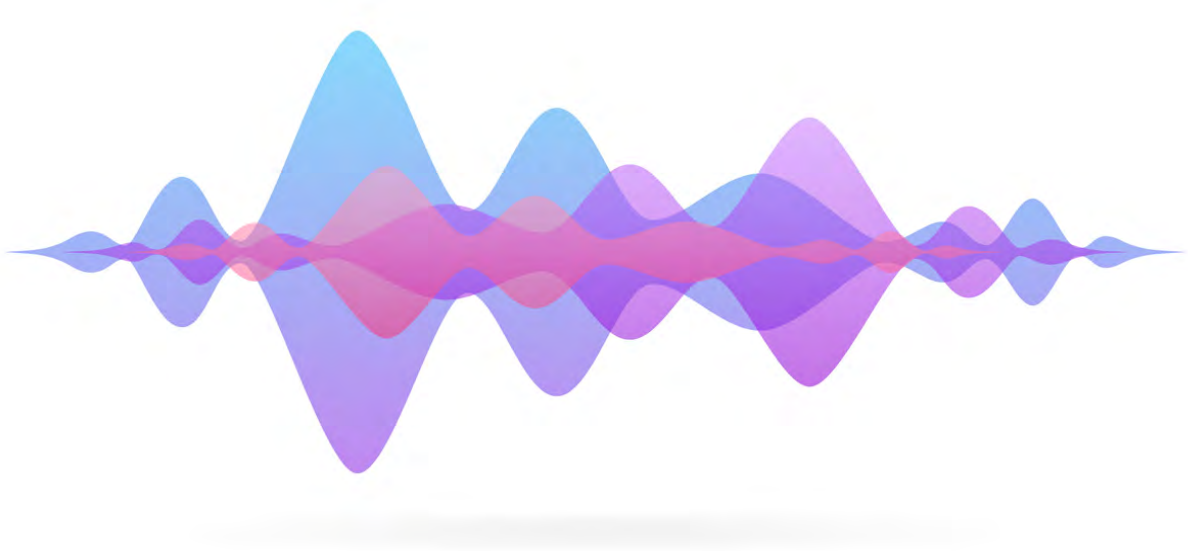
Just because you can knock up a 'talking head' animation in 10 minutes with an AI animation tool, doesn't mean you should (or that it will be any good!). Is it even helpful to have an animated character delivering this message, or would something else be more effective?

> "We need to take time to pause and use our own human intelligence"

We risk being distracted by all the additional media options that are now available and forgetting the basic principles of learning design, including great storytelling, the opportunity to practice application of the learning, and the 'what's in it for me' engagement part.

So, before jumping straight into generating yet another piece of whatever AI-assisted content is currently on trend, we need to remember to take the time to pause and use our own human intelligence, and trust in our judgement and experience as learning professionals.

What's the content? Who needs the information? When, why and on what devices are they needing to access it? Above all else, what style of presentation or interaction would make the content more memorable, and make the learning easier to apply?



It's not just the AI-generated visuals that, when not well-used, can be damaging to learning and engagement. A good voiceover performance can add hugely to the effectiveness of a piece of communication or learning content, but a poor one can actively damage the learning experience. Anyone who listens to audio books, or spends more than five minutes on social media, will have experienced this.

Of course, a human is also perfectly capable of delivering a poor performance, but AI-generated voiceovers take it to another level! Sometimes, content that's clear and comprehensible when written on the page becomes impossible to follow when delivered via an AI-generated voiceover. Indeed, in the worst examples, the meaning can be lost entirely.

I was recently given some software 'training' that was basically screen-capture twinned with an AI voiceover. On its own, the screen-capture was perfectly accurate and serviceable, and with a good voiceover to accompany it, the result would have been great, but when delivered with a poor AI-generated voice, it was genuinely impossible to take in the content.

The voiceover was monotonous, with bizarre inflections and in completely inappropriate pacing – speeding through very complex instruction before then pausing inexplicably at other moments.

> **"Just because your script is good, it doesn't mean adding an AI voice will improve the learning experience"**

Issues with AI voices are often solvable, it just requires more time and effort and human engagement: remember, the quality of the output you receive from AI tools is dependent on the quality of your directions.

So, adapting your script with punctuation to direct the voice – even sometimes re-writing to find something that works better – can give you what you need. But this means taking the time to adapt, amend and correct what AI generates, and ensuring the application of human intelligence and direction. In this way, we need to understand that AI is not a 'quick fix' solution – at least not if you want an effective result.

Also, as with the 'talking head' example, just because you can create a voiceover to accompany your script, it doesn't mean you should. Just because your script is good, it doesn't mean that adding an AI voice will result in a great learning experience, or even improve it.

> **"The quality of the output from AI tools is dependent on the quality of your directions"**

03

THE IMPACT OF AI ON HUMAN PERFORMANCE

Finally, while we're focusing on the 'watch-outs' and potential pitfalls of Artificial Intelligence tools, it's worth taking a step back to think about the general impact of AI on the way we learn, and how we engage with content.

A recent study by Carnegie Mellon University, in collaboration with Microsoft[1] – of all people! - found that the use of GenAI may actually diminish our cognitive abilities, and the lessons to learn from this appear to be the same as we've already explored when using AI to generate content for learning: we need to be sceptical of AI and clear about why and how we're using it, if we want to avoid the potential pitfalls.

> "The use of GenAI may actually *diminish* our cognitive abilities"

The researchers asked 319 knowledge workers to report how they use GenAI. They found that respondents who were sceptical about AI systems were more likely to engage their own critical-thinking skills. But those with greater confidence in AI tools were less inclined to steer or monitor them – especially in seemingly low-stakes tasks. Such behaviour could result in "diminished independent problem-solving," according to the researchers – i.e. actually reducing the skills of those using AI tools.

As learning professionals, we should be concerned, therefore, not only for the impact that indiscriminate use of AI tools might have on the quality of the learning experiences we develop, but also for the potential use of AI tools as a substitute for human experience and competence.

In both cases, this 'diminished independent problem-solving' is about poor use of AI tools, poor direction, and lack of quality control. It's about 'outsourcing' responsibility to AI systems rather than actively managing and directing their outputs.

1. "The Impact of Generative AI on Critical Thinking: Self-ReportedReductions in Cognitive Effort and Confidence Effects From a Survey of Knowledge Workers" - Hao-Ping (Hank) Lee, Carnegie Mellon University, Pennsylvania, USA & Microsoft Research, Cambridge, UK (2025)

Another significant finding was that those who turned to GenAI to assist with critical-thinking tasks generally produced less-diverse outcomes than those who did not. It's not just about everybody coming up with the same action-figure versions of themselves, it's about potentially more subtle and serious impacts that, without attention, AI tools can have on our working world and the decisions that are made on our behalf.

You've probably heard about issues with AI tools filtering CVs from job applicants on the basis of flawed and biased assumptions. As humans, we can be guilty of the same, but with AI the potential scale and impact is hugely magnified because of the speed at which they process data.

This research is not an isolated example. According to Gary Marcus, professor emeritus of psychology and neural science at New York University, the prevalence of GenAI presents a "fairly serious threat" to our cognitive abilities and critical thinking skills.

We already see this in the way AI has impacted people's use of Google search. In the early days, we used to scroll to pages 2, 3, or 4 to review search results. We would then most likely try several of the available links before reaching a conclusion. We were interested in the results presented, but did not accept them uncritically: we would take time to review and compare them with our own experience and knowledge, making active decisions about what to trust and what was reliable.

Over time, however, we've started to abdicate responsibility and accept, more and more, that what Google presents to us is a final and absolute truth. These days, we very rarely look beyond the first page of results we are presented with – even though the top half of these results are actually what Google has been paid to present to us in response to our search, rather than being the most relevant and appropriate answers to our questions.

> **"The risk is that we believe what AI tells us, uncritically"**

Indeed, there's a chance we don't even look at the search results but, instead, read only an 'AI summary' at the top of the page. The risk is that this summary is just 'believed', uncritically, without using our own 'actual intelligence' to question and test the accuracy of what's being presented.

04

WHERE AI CAN TRULY SHINE

So, there are a lot of dangers to look out for: and the key lesson is to understand the need to properly direct, review, revise and challenge the outputs we get from AI tools, to ensure we are in control.

However, as well as potential challenges, AI offers us potentially huge benefits and opportunities.

For one, although there are dangers in the indiscriminate and poorly directed use of AI tools, they can also result in huge efficiency savings. At PurpleMedia, we already see this in our workflows for media production.

> “For the first time, we can bring rich, engaging media and content within reach of almost any budget – and timeline”

Tasks that would previously have taken hours and even days of effort - such as sound editing to remove background noise or retiming and lip-synching animations to match translated audio - can be accomplished in minutes. Also, tasks that were previously almost impossible without prohibitively expensive special effects technology, now become possible: film and video content can be amended to change lip-synching, for example, and voices can be cloned to make audio pick-ups and amendments cheaper and quicker than ever before.

For the first time, we can bring rich, engaging media and content within reach of almost any budget – and timeline.

One area this is already making a huge difference in, is the realm of translation. Using AI-assisted translation techniques, linked with AI-assisted animation, audio and video production, has enabled us to transform workflows and processes. For one of our clients, we’ve been able to save them 1/3 of the originally estimated budget – a 6-figure saving on just a single project – while also delivering weeks earlier than would otherwise have been the case.

AI can also help us to solve one of the biggest challenges we've struggled to overcome – how to access and use data.

We've already enabled natural language reporting in our LMS platform and tools. So, rather than struggling with pre-set reports - trying to filter out just the bits you want to see and find the data you're looking for – you can just ask it the question you want answered.

> **"The future of learning may be content, not courseware"**

AI also opens up the possibility of truly intelligent content searches and recommendations, with the Learning Management Systems of the future being a repository of easily filterable, findable, accessible content – rather than an impenetrable thicket of courseware, with the relevant learning hidden within an extended learning journey.

Indeed, our belief is that we'll move further away from large structured courses and instead towards learning experiences driven by search - with short-form content 'nuggets' delivered in a sequence directed by the learner, based on the speed of their comprehension, the complexity of their questions and the required depth of their understanding.

AI, oddly, can also help us to make digital learning more 'human'. We recently developed an AI-powered avatar that could provide guidance and support to learners seeking advice on how to handle difficult conversations with their manager or team members, and how to give constructive feedback.

Rather than creating a fixed 'course', we could train the AI with the relevant learning (a very strange 'train the trainer' experience!) – including the specific feedback models used by our client. Learners were then able to ask the avatar whatever questions they wanted – literally, using a microphone - receiving personalised, and personally-relevant information and guidance as a result.

Even more interestingly, this content, this conversation, could then be made available to anyone in a wide range of languages – not by translating anything, but simply loading up the relevant language to the AI.

In Dutch this worked incredibly well. For other languages, the intonation was perhaps not quite there yet – but the potential is clear.

A further example of how AI can be used to augment and even replace human interaction is in the arena of coaching.

We've developed and deployed an application that allows companies to support their managers and team leaders to hold structured, prompted, coaching conversations with their team members. This provides an important bridge between competency assessments and career conversations, and the training and development activities that help learners to improve. In addition to tracking and recording those conversations, AI assistance also helps to prompt and continue them.

05

AUGMENTING, NOT REPLACING

So, in summary: AI offers us real possibilities to augment and supplement human interaction, and finally bridge the gap between human / face-to-face and digital learning experiences. It could be the one technology that truly lives up to its early promise, allowing the development of rich media and interactivity at budget levels that can be widely afforded, and with flexibility and timelines that can suit even challenging projects.

> **Maybe, the most advanced technology of our time will help us to re-focus on the most basic skills and questions we should be applying to our work**

However, as we learn more about the power and possibilities that AI opens up to us, we must be careful to remember that AI is a tool that needs to be properly directed, and managed with a sceptical and critical eye. AI tools will (mostly) do what you tell them, but are not in themselves creative, and without direction will likely serve up generic, and potentially inaccurate results. Not just less creative, but less effective.

As learning professionals, we should be confident in our experience, judgement and skills and use these to direct AI accordingly. Also, not to fall into the trap of being distracted by all the possibilities, but selective in our choices: just because you can, doesn't mean you should.

Maybe, the most advanced technology of our time will also be a catalyst for us to re-focus on the most basic skills and questions we should be applying to our work as learning professionals: What's the content? Who needs the information? When, why and on what devices are they needing to access it? Above all else, what style of presentation or interaction would make the content more memorable, and make the learning easier to apply?

AI + human = ?

The opportunity is real. So are the risks. What matters most is how we respond:

- **Direction matters:** AI can do incredible things, but only if you know what to ask of it.
- **Quality control is non-negotiable:** You still need to apply your eyes, ears and critical thinking to everything AI outputs.
- **Not everything needs AI:** Just because you can doesn't mean you should. Use your judgement and experience to ensure you get the right result.
- **Your learners deserve better than generic AI outputs:** They deserve real thought, real creativity, and real connection.
- **Well-used – especially in production workflows – AI tools offer transformational time and cost savings:** making rich-media interactive learning experiences available to more projects, budgets and timelines than ever before.

That's why our approach isn't "AI vs. human", it's AI + human. Each bringing their strengths. Each enhancing the other.

With the right partnership between people and machines, we can finally break free of outdated digital learning models and build something not just faster, not just cheaper, but better.

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