

# AI in Learning & Development: Reaping Benefits & Considering Ethics



## EXECUTIVE SUMMARY

Artificial Intelligence (AI) has become a pervasive force driving change across multiple sectors—from business operations to Learning and Development (L&D). Rooted in decades of technological evolution, AI has branched into different subcategories: Artificial Narrow Intelligence (ANI), Artificial General Intelligence (AGI), and Artificial Super Intelligence (ASI). Most familiar to us today are ANI systems like chatbots and digital

assistants, capable of single-task operations.

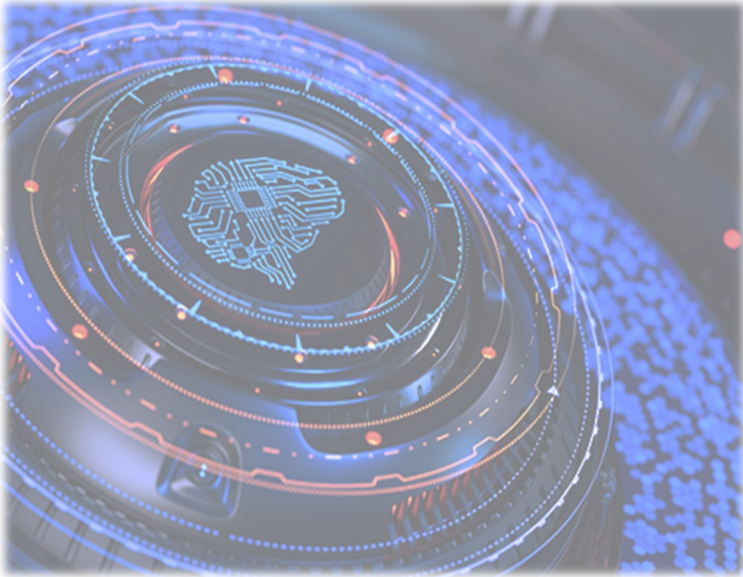
The adoption of AI in business promises strategic advantages, enhancing operational efficiency and data-driven decision-making. A Forbes Advisor survey indicates that 64% of businesses expect an increase in productivity from AI, and 42% see its potential for streamlining processes. The consumer perspective also remains largely positive, with 65% of consumers trusting businesses that employ AI.

One business area that will have an immediate impact from AI process

integration is the Learning & Development (L&D) department. L&D creates Learning Journeys for employees. A Learning Journey helps an employee upskill, remain compliant with regulatory and company policies, and provides opportunities for advancement, just to name a few outcomes. An L&D professional's ability to learn, adapt, and implement AI into their routine processes has the potential to increase both efficiency and ROI. From personalized learning to adaptive assessments to automated content creation is possible with the assistance of AI.

However, the rapid integration of AI is not without concerns. Intellectual property issues, data security, and ethical considerations pose significant challenges. Writers, for example, fear that AI could detract from creative efforts, while educators worry about plagiarism and academic dishonesty. Ethical considerations loom large, with calls for a human-centric approach to AI that ensures accountability, transparency, and unbiased outcomes.

As AI continues to permeate various aspects of life and business, it's imperative to proceed cautiously. Ethical guidelines and frameworks, such as the European Union's (EU) proposed guidelines around "human-centric AI," offer a way to navigate the complex landscape. Striking a balance



between technological advancement and ethical considerations is key to preventing a "slippery slope" scenario, making it essential for end-users to adhere to policies and guidelines.

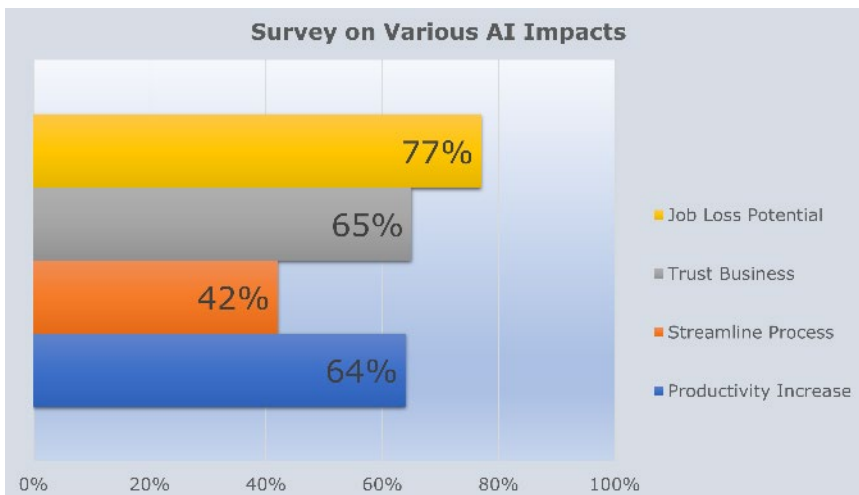


Personalized Learner Journey generated by Adobe Firefly

## A BALANCING ACT FOR L&D PROFESSIONALS

- Will AI increase productivity?
- Will the business trust L&D if it uses AI to develop courses?
- Will AI cause L&D professionals to lose their jobs?
- What are the ethical considerations and implications of using AI?

Computers in the 1950s, 60s, and early 70s were large and used primarily by business and government agencies. However, over the last three decades computers have gone from taking up an entire room to being small enough to wear on your wrist. Technology is pervasive and doesn't show any sign of slowing down. The latest technological advancement over the past decade is in machine learning or Artificial Intelligence (AI). But what is AI, and will it help society, or will it be society's downfall? To quote the movie Spiderman, "With great power comes great responsibility." This statement holds true with the rapid development of AI.



Source: *Forbes 24 Top AI Statistics And Trends In 2023*

In a recent Forbes Advisor survey, 64% of businesses felt AI would increase productivity and 42% agreed AI will help streamline their processes. Professional writers are divided because there isn't a well-defined plan in place for its use. Many writers feel AI threatens the field of creative writing and could potentially cause job loss. Some teachers disapprove of AI because of the risk of

plagiarism and cheating among their students. Additionally, concerns around job loss due to machine replacement is a major concern of those in creative and educational industries like Learning & Development. Even with the concerns from various groups, consumers tell a different story regarding AI. In another Forbes Advisor survey, 65% of consumers responded that they would still trust businesses who use AI. Interestingly, in another part of the same survey, 77% were apprehensive that AI would cause job loss within a year of the survey.

While AI has great potential to increase productivity and streamline processes, adoption may be slowed because people and organizations have different viewpoints. There is an opportunity to develop ethical

standards to ensure that AI's capabilities are used appropriately. With guidelines or policies to follow, the use of AI could be governed to some extent. Yet, if users are responsible for regulating themselves, there will be potential for misuse.

# AI: PAST, PRESENT, & FUTURE

## AI: PAST

AI may sound like something out of a science fiction novel, but it's real and some form of it has been in use for a few decades now. Before we dive into what AI is and the capabilities surrounding it, let's review some pioneering technology that led us to where we are today.

Some forms of digital assistants existed long before the advent of Siri, Alexa, and Google Home. Digital assistants were a precursor to these forms of enhanced search. Some early examples include:

- **ELIZA** (1966) – First chatbot designed to simulate a conversation with a psychotherapist.
- **PARRY** (1972) – Another chatbot more advanced than ELIZA, which simulated behaviors.
- **Personal Digital Assistants** (1990s) – PDAs such as the Palm Pilot or Blackberry offered a handheld assistant for daily tasks.
- **Interactive Voice Response** (late 1990s) – IVRs provide Customer Service departments with a way to route customers to the proper agent for call handling using verbal cues.



## AI: PRESENT

Early forms of AI led to the development of what we use in our daily lives today. Keep in mind that most are still single-task oriented.

Artificial intelligence is an interesting term and one that requires further definition. At the most basic level, AI is nothing more than a computer that is preprogrammed to "simulate human intelligence." AI allows computers to complete tasks that are normally done by humans, but at an increasingly faster rate and efficiency. There are three subcategories associated with the term AI: ANI, AGI, and ASI. These subcategories speak to the capabilities they have.

“A system like ChatGPT doesn’t create, it imitates.”

-Cal Newport

- **Artificial Narrow Intelligence (ANI)** – usually termed as *Weak AI* and is task-specific and limited to single tasks.
- **Artificial General Intelligence (AGI)** – usually termed as *Strong AI* and has the capability to understand and learn any task a human can perform.
- **Artificial Super Intelligence (ASI)** – simply known as *Super AI* takes the Strong AI but can not only understand and perform the task, but also do it much better than a human.

### **ANI (Weak AI) Examples listed by their capabilities**

#### **Chatbots**

- [WP-Chatbot](#)
- [LivePerson](#)
- [HubSpot Chatbot Builder](#)
- [Intercom](#)

#### **Image Creation**

- [Dall E2](#)
- [Midjourney](#)
- [Adobe Firefly](#)
- [Wombo](#)

#### **Virtual assistants**

- [ChatGPT](#)
- [Bard](#)
- Vyond Go (part of Vyond subscription see below)

#### **AI Voice Generator**

- [WellSaid Labs](#)
- [Vyond](#) (in addition to animation)
- [Murf AI](#)

These tools use machine learning and its subset of deep learning algorithms to accomplish a task. They are limited to knowledge that (already exists. As Cal Newport describes in his [New Yorker](#) article, “A system like ChatGPT doesn’t create, it imitates.”

## AI: FUTURE

The next level of AI is currently being researched. The idea is to get AI to learn and adapt to its inputs and environment, much like humans do, but more efficiently. An example of this would be a fully autonomous driving vehicle. Currently "Full Self-driving (FSD)" is available only in Tesla vehicles at the task-specific ANI level. However, a vehicle which can not only drive itself, but fully adapt and learn as it evolves, could potentially reach AGI level of AI. Another application could be in manufacturing, where it could use predictive maintenance to analyze parts and proactively schedule for the part to be replaced, thereby saving downtime and ultimately machine costs.

**AGI** or *Strong AI* is where we're headed. AI with the ability to adapt and learn is still currently out of reach and is out of scope for this paper.

The pinnacle of AI is **ASI** or *Super AI*. This is the stuff science fiction movies are made of when robots take over the world and humans become extinct. While this scenario is far from becoming reality, it is worth noting that technology is moving fast and while machines won't take over the world, they could make your grandchildren's jobs easier and more efficient.



Futuristic Urban setting depicting ASI generated by Adobe Firefly AI

# AI IN BUSINESS

AI is not only a technological advancement but it's also proving to become a business commodity. According to Abdullah Abonamah, "Artificial intelligence can support improvement through less human error and fewer mistakes, enhanced business decisions, automatic tasks and procedures, enhanced operational efficiency and productivity" just to name a few.

Good implementation of AI in business offers strategic advantages. Aside from those advantages mentioned previously, AI can lead to transformational change within a company when implemented properly. Looking at the strategic side of business, AI offers the ability to collect and analyze data at a faster rate. In addition, an increase in efficiency and better customer service is also a strategic advantage for companies. These AI capabilities have the potential to reduce the overall cost a business incurs. Another advantage is that a business can use the data collected to update or drive new strategies to meet the changing landscape of its business.

AI technology in today's digital world has changed how we work, play, and interact with the world around us. It's important to understand that this technology can make life easier for us, but as with any advanced technology there are tradeoffs.

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## ADVANTAGES

AI offers the ability to have a computer perform mundane or repetitive tasks. These tasks can be done with great ease. Humans performing repetitive tasks, even small ones, will inevitably make a mistake at some point. However, because AI can base its response off millions of data points, it can perform tasks without error. AI is always available 24/7 and never gets tired. It provides outputs without emotions. Additionally, AI is great at pattern recognition with high-level of accuracy.

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## DISADVANTAGES

Conversely, AI also has tradeoffs or consequences associated with it. Just as it provides accurate output without emotions, this can be a double-edged sword. AI output, while accurate, can tend to be biased based on the data set being referenced. Another disadvantage is that there's no creativity, because AI output is based on pre-determined data and the processor is unable to "think outside the box." Also, humans today rely more heavily on technology than prior generations. Today, you don't need to memorize facts or solve math equations. You can just "Google" what you want to know. With the evolution of AI, there is growing concern about ethical use, which will be discussed later in this paper.

# AI IN LEARNING & DEVELOPMENT

Before plunging into the fascinating world of AI's involvement in L&D, let's clarify what corporate training typically entails. Rooted in the science of adult learning, or andragogy, corporate training projects are crafted to educate and elevate the skills of a company's workforce. Once a training project is defined, a multifunctional team of architects, designers, and developers creates a learning journey.

These journeys are not a one-size-fits-all solution. They mesh the organization's essential skill sets with the employee's individual motivators and real-world experiences, presenting them in easily digestible learning modules. Depending on the project's scale, an employee may encounter anywhere from a few to a hundred different learning assets—ranging from storyboards and scripts to interactive scenarios and animations. Given this broad scope, asset creation could span from a single day to several weeks.

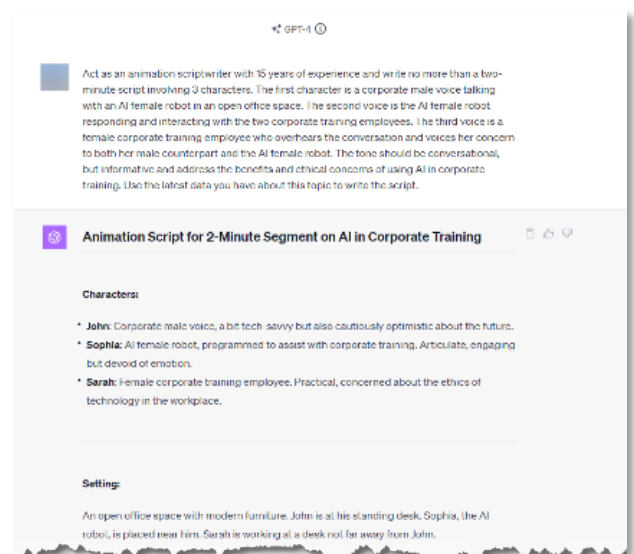
*“...Instructional Designers can type in a prompt and choose the vibe of the video...”*

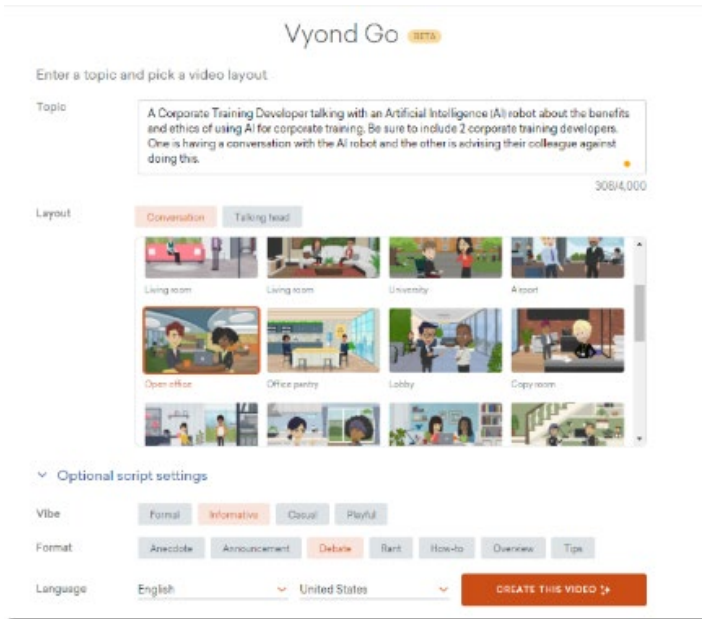
*-Karl Kapp*

## *The AI Advantage: Streamlining Asset Development*

Now that we've unpacked the basics of L&D, let's explore how AI technologies like OpenAI and text-to-speech can revolutionize this field. Imagine if you could expedite your asset creation process, thereby driving efficiency? AI offers a plethora of tools to make this vision a reality. Here, we'll focus on four key aspects:

- **Storyboarding** – Using a tool such as ChatGPT a designer can use AI to generate an outline based on the parameters of the project.
- **Scriptwriting** – Using the same ChatGPT the designer can input their storyboard information into the prompt and tell the AI to write a script. They can set the tool use a casual, friendly tone or maybe a more formal business tone.





- **Voiceover** – Once the script is created, the developer can use tools like WellSaid Labs AI voice avatar to record narration for the training. Using this type of AI technology provides a more “natural” human sounding experience. AI generated narration can be used to create scenarios, providing a more realistic experience for the learner. An additional benefit of using AI for narration is eliminating the need to hire a voice actor or to rerecord the entire module when a change is needed in the future.

- **Animation** – Motion graphics can be created using AI to enhance the training and reduce the use of text. As Freifield shared “In the Vyond Go platform, Kapp says, instructional designers can type in a prompt, choose the vibe of the video (ranging from formal to informative, casual, or playful), and then pick the format (including anecdote, announcement, diatribe, how to, and more).”

### *Ethical Hurdles: The Intellectual Property Dilemma*

Despite the many advantages, use of AI is not without its challenges. One pressing concern is the risk to intellectual property. OpenAI platforms like ChatGPT utilize Large Language Modeling technology that poses a potential security risk for sensitive company data. To mitigate risk, some companies—such as my own—are investing in licensed versions of OpenAI to create secure, in-house AI ecosystems. This approach, however, is an expensive endeavor not accessible to all organizations.

Moreover, the reliability of OpenAI systems like ChatGPT is only as good as the data fed into the prompt and the system's existing data sets.

### *AI and Job Impact: Balancing the Scales*

While the implementation of AI tools such as text-to-speech and GPT can dramatically improve efficiency, there's a cloud of uncertainty that hovers over job security. Could these technologies make certain roles redundant within the L&D sector?

The key here is not replacement but enhancement. L&D professionals should view AI tools as assets that can free them from mundane tasks,

enabling them to focus on more strategic and creative aspects of learning design. For instance, AI can handle repetitive tasks such as content updates and basic level assessments, leaving the intricate task of creating compelling learning narratives to humans.

#### *Learner Experience: A Personal Journey with AI*

It's no secret that personalized learning experiences contribute to better knowledge retention and application. AI-powered tools, specifically text-to-speech and GPT, can curate unique learning paths.

The use of AI can adapt course material in real-time based on the learner's performance, creating a more engaging and beneficial learning environment. Imagine a module on corporate ethics that adapts its examples and case studies to suit the learner's department, role, or even current events.

#### *Quality Control: The Human Touch*

AI is not infallible, and there are quality considerations to keep in mind. While GPT can generate content that is grammatically correct and contextually relevant, it requires human judgment to ensure that the information aligns with organizational values, guidelines, and goals. The same goes for text-to-speech; the tone must match the intent and context of the learning material.

#### *Ethical Framework: Guiding Principles for AI in L&D*

As businesses tread into the AI arena, ethical considerations should be at the forefront. When adopting AI technologies in the L&D field, here are some guidelines:

- **Fairness:** Strive for AI tools that provide equal opportunities for all learners, free of any inherent biases.
- **Transparency:** Always disclose the use of AI in any learning program. Transparency builds trust and enables learners to provide valuable feedback.
- **Data Security:** Only use AI tools that adhere to data privacy regulations and ensure the secure storage and transmission of sensitive information.
- **Human Oversight:** While AI can perform many tasks autonomously, human oversight ensures quality, fairness, and ethical compliance.

## *What Now: L&D's Future*

The future is now, and AI has an increasingly prominent role in shaping it. As L&D professionals, it's crucial to balance the enormous potential of AI with the ethical considerations it presents. Text-to-speech and OpenAI's GPT offer opportunities to revolutionize how we approach learning, but this must be done with discipline and responsibility.



Modern L&D Professional working alongside AI generated by Adobe Firefly

## AI & ETHICS

When it comes to ethics in AI, we're not just talking headlines; we're talking a full-blown front-page feature. The European Union is concerned about the implementation of AI without human oversight. Therefore, they aren't just setting guidelines, they have developed commandments with their human-centric AI initiative. The message is clear: humans have got to be in the director's chair to ensure that data accuracy and security are ensured.

*“AI isn't merely a shiny tool...”*

Michael Cheng-Tek Tai, a sociology researcher restated the European high-level expert group's stance that "AI systems must be accountable, explainable, and unbiased." An AI system without ethical considerations is a disaster waiting to happen.

Vincent Müller, a Stanford researcher discusses ethical debates, from behavior influence to artificial moral considerations. In the world of AI these are important questions that society needs to face, ASAP.

Companies like WellSaid Labs, are blazing the trail for ethical voice cloning in AI. As part of their human-centric approach, they utilize actual voice actors to create their AI voice clones. Their guidelines include five pillars that echo what the EU's been preaching: "fairness/no-harm, data protection, transparency, explainability, and human autonomy and control." WellSaid Labs makes it clear: Human ethics is at the center of their model.



Source: WellSaid Labs: [AI Ethics 101: Making machines morally mindful](#)

Through the course of researching this paper, it has become obvious to me that human oversight isn't optional; it's mandatory. You wouldn't let a toddler drive a car, so why would you let an algorithm with no ethical programming make critical decisions? It's a non-starter.

Realistically, however, there are some who want to weaponize AI, taking us down a dangerous path. But for legitimate business use, if everyone from policymakers to business owners and educational facilities keeps the dialogue flowing, we're not just on track for an AI future; we're setting up for an AI renaissance that's ethically solid. Transparency in the use of AI should be a requirement, as essential as the electricity powering the servers.

## AI: THE ROAD TO HARMINIZATION

AI is becoming the new normal in the business world and is being effectively utilized by L&D organizations. From streamlining standard business procedures to potentially revolutionizing learning and development, AI's impact is nothing short of transformative. Yet we're at a crossroads where innovation meets ethics, and that junction is far from straightforward.

The roadmap to AI implementation must be methodical and anchored by ethical considerations. Taking cues from the EU's human-centric guidelines and the ethical pillars used by WellSaid Lab, setting, and enforcing standards of use are critical control measures.



So, who will enforce ethical use of AI? Most likely it will take a team effort involving policymakers, businesses, and educators, who will need to collaborate. Full transparency to the user is another important aspect of AI implementation.

As with most rapid technology developments, there will probably be a few bumps in the road, but I believe we're on track for ethical and effective use of AI in the future. Working in the L&D field, I can see many practical uses of AI technology to improve learning journeys.

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