



Better Futures. Designed by You.

The Impact of AI on Learning Design

2024



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Introduction to AI for Learning

Artificial Intelligence (AI) has been a key part of our digital lifestyle. From the release of ELIZA ^[1] in 1966 which demonstrated communication between humans and machines, to SIRI, Alexa, language paraphrasing tool QuillBot and even data security ^[2] we have certainly come a long way in making the most of AI applications .

Introduction to AI for Learning

And if there is one thing that is certain, it is how rapidly AI is evolving, every day.

Some of the more recent developments in generative AI such as ChatGPT and Bard AI are revolutionising day to day AI interaction. Now, a single sentence prompt can generate a wealth of content on various topics. It can do away with writer's block and even cut down time on content creation.

What certainly counts in AI's favour, is how user-friendly and accessible it is. Trying out various prompts can help you get instant content for the purpose that you intend to use it – from training modules to even full courses.

That's not all: If you want to add a further visual element to the content you are creating, you can use AI to create a "visual representation" of a speaker or narrator.

With current technology, it is easy to create a human likeness and voiceover according to what you need.

That means no more casting calls or needing to wait for suitable presenters to become available – you can already create a perfect AI voice actor [3] that can bring your content to life.

So, how can we effectively use AI in learning design in a way that is ethical and practical, and that can add value for the end-users?

In this eBook, we are taking a closer look at practical, applicable recommendations and tools, as well as a step-by-step guide to getting started with using AI in your content creation.

Let's begin by unpacking the key definitions, principles and benefits of AI.

Introduction to AI for Learning

Key definitions of AI

Tech Target ^[4] defines AI as the “simulation of human intelligence processes by machines, especially computer systems”.

AI as we know it today has several uses, and for many these include using AI tools as part of daily work tasks and content or audio creation.

The key components of AI can be described as the following:

- **Machine Learning**
- **Natural Language Processing (NLP)**
- **Robotics**
- **Computer Vision**
- **Expert Systems**

Machine learning ^[5] is a subfield of AI and computer science that focuses on using data and algorithms to simulate how humans learn, gradually increasing the accuracy of the system.

Equally impressive is NLP ^[6], which can be defined as a computer program’s capacity to comprehend natural language, or human language as it is spoken and written. Interestingly enough, NLP has been around for more than 50 years and has linguistic roots.

The robotics component of AI can be described as the study of the creation, advancement, and usage of machines that can operate autonomously or partially autonomously, while computer vision ^[7] focuses on making it possible for machines to comprehend and interpret visual data from their environment, such as detecting objects in an image or following motion in a video.

The fifth component, which is expert systems, focuses on creating computer programs that can simulate the judgment skills of a human expert in a particular field.

AI can further be unpacked as narrow/weak, general/strong and super intelligent ^[8]. Weak AI is not

necessarily “poorly performing” AI: It is rather AI with a more narrow focus used for aspects such as virtual assistants such as Siri or face recognition software.

CodeBots defines strong AI as the capacity to ascertain the wants, emotions, beliefs, and mental processes of other intelligent beings.

And then there is super intelligent AI: The next step where machines would become aware and beyond human intelligence and ability limits.

Although we are not yet at that point of using super intelligent AI, we are already utilising general (strong) AI – which means that our journey with AI is on a trajectory that keeps on pushing forward.

Now that we have a good understanding of the three types of AI capabilities, let’s move forward to review the principles of AI.

Introduction to AI for Learning

Principles of AI

According to Microsoft ^[9], there are six principles of AI to take note of.

These include:

1. Accountability

2. Inclusiveness

3. Reliability and safety

4. Fairness

5. Transparency

6. Privacy and security

Furthermore, these principles are guided by two concepts:

1

Ethical

(which covers inclusiveness, accountability and to a certain degree also reliability and safety) implies that AI should be held accountable for all steps and never discriminate against anyone.

2

Explainable

(which covers fairness, transparency, privacy and security, with an overlap of reliability and safety) assists data scientists, auditors, and business decision makers in ensuring that AI systems can adequately explain the reasoning behind their judgments. Additionally, explainability promotes conformity with corporate guidelines, industry norms, and governmental rules.

Introduction to AI for Learning

Principles of AI

Here is a quick snapshot of what these principles apply:



Accountability:

A crucial tenet of responsible AI is accountability. Particularly as we go toward increasingly autonomous systems, the individuals responsible for an AI system's design and implementation must be held accountable for its decisions and behaviours.



Inclusiveness:

AI must take into account all human races and experiences in order to be inclusive. Developers can better recognise and remove any obstacles that might unintentionally exclude people by using inclusive design approaches. In order to empower persons with hearing, vision, and other disabilities, organizations should use speech-to-text, text-to-speech, and visual recognition technology.

Reliability and safety: AI systems must be trustworthy and secure in order to earn public trust. It's crucial for a system to operate as intended and to react to novel circumstances safely.



Fairness:

All humans strive to comprehend and uphold fairness as a fundamental ethical concept. When creating AI systems, this principle is much more crucial. The system's judgments must be subject to stringent checks and balances to ensure that they don't express bias or discrimination against any group or individual.

Introduction to AI for Learning

Principles of AI



Transparency:

When an AI system is transparent, it allows those using it to better understand the logic behind a system and how a final product was created.



Privacy and security:

The data in an AI system must be protected by its data owners. Access to personal information must be protected, and it must not negatively impact a person's right to privacy.

In a nutshell, therefore, AI needs to be acceptable for the purpose that it is being used for. Think of learning design as an example. Using AI can certainly benefit the process of curating content; however, if it cannot be trusted to fulfil the above principles' requirements, the question might arise of whether you are using something that is ethical and explainable.

This is why it is important that you use a trusted and proven AI in learning design. You need to ensure you use a platform that will provide results, while also being a safe application that will not cause any security risks.

Let's continue now by looking at the benefits of using AI.

Introduction to AI for Learning

Benefits of AI for learning design

The learning design process can be grouped into five steps, namely the ADDIE model, which comprises:

Analyse

Design

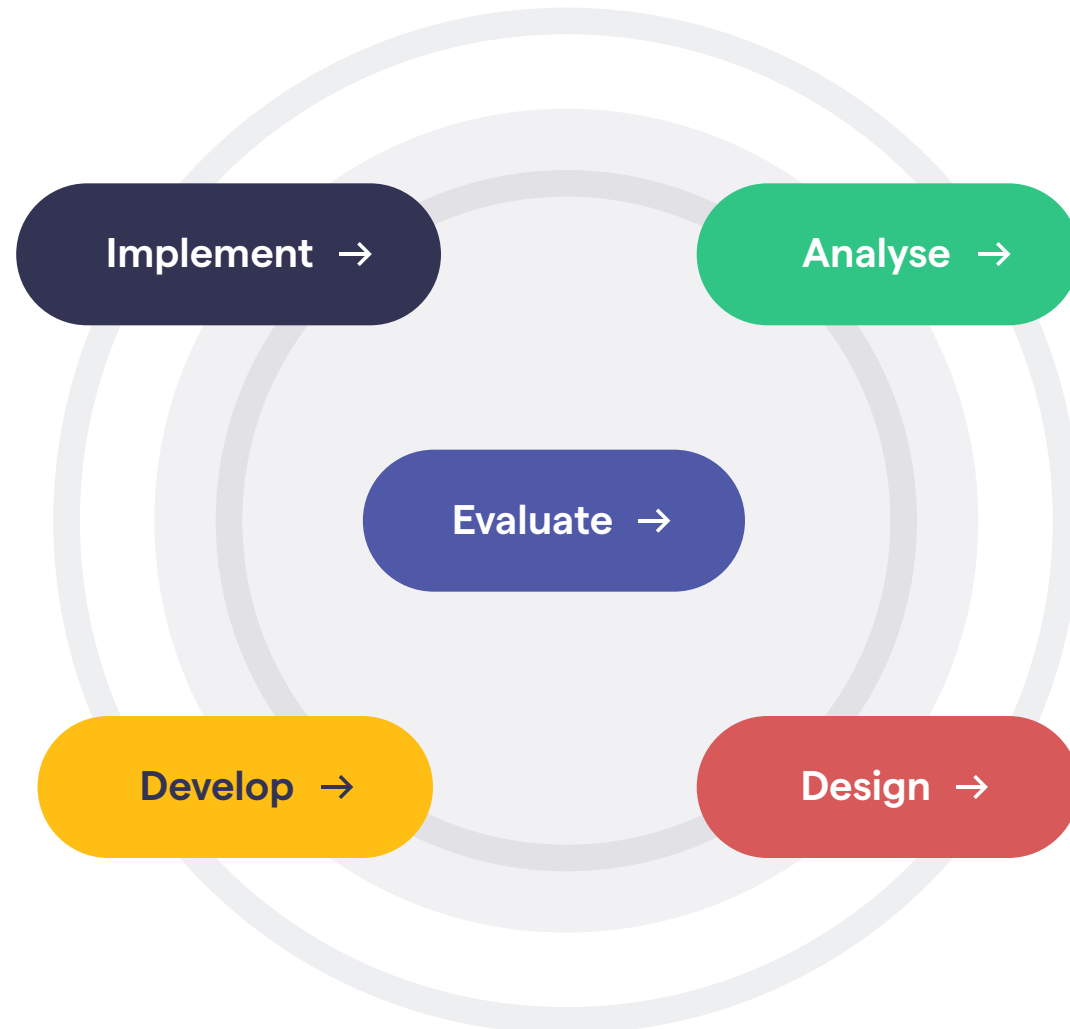
Develop

Implement

Evaluate

Each of these steps can positively benefit from the use of AI, when applied in the correct manner.

Here is an overview of each step and how AI can benefit the learning design process.



Introduction to AI for Learning

Analysis with AI

AI can play a vital part during this stage – especially when it comes to freeing up time during a project.

Typically, you will spend less time on the following:



- Gathering and analysing data.
- Creating training specifications.
- Mapping content.

This means you will have more time for:



- Stakeholder collaboration
- Reviewing data insights
- Experimenting in LX Design

During the analysis phase, you will likely be looking at using content tools such as copy.ai, ChatGPT, Jasper and miro AI for curating content and content frameworks. Bard, which is another new player in the AI content field, could also be considered.

An important reminder here is that any factual data that you generate with AI tools needs to be cross-checked - and this includes ensuring that you do not use outdated information (which could sometimes be provided during the AI content generating process).

During your analysis phase, you need to keep in mind that you must not solely just generate content and take it as is. You still need to have a keen editor's approach and ensure that what you are collating has value and meaning, and can help you reach your desired end-goal.

Introduction to AI for Learning

Designing with AI

AI is not just restricted to the writing side of learning design. With the right tools, you can implement designs, create eye-catching layouts and have beautiful templates ready to be used in less time than what you would have used if you designed from scratch

Typically, you will spend less time on the following:



- Designing assessments.
- Storyboarding.
- Reviewing cycles with SMEs.

This means you will have more time for:



- Prototyping.
- Problem-based learning.
- ID for new learning formats.

There are fantastic tools such as Canva Magic Write, Microsoft Designer, beautiful.ai, and uizard at your disposal. Do take the time to see which application would work best for your projects - otherwise, you might end up being frustrated when you struggle to work with a platform that is not suited for your level of comfort.

Introduction to AI for Learning

Developing with AI

Using AI during your developing phase comes with its own set of benefits.

Typically, you will spend less time on the following:



- Content creation.
- Content curation.
- Testing.

This means you will have more time for:



- Experimenting with mediums.
- Universal design.
- UX design with tools such as easy generator, nolej, and 7taps.

The user journey that you are crafting during your development phase is of the utmost importance. You want your end-users to experience your content favourably. You want them to feel that it is easy to work through content and that their learning journey is pleasant from start to finish.

By using AI tools, you have the time to develop the right frameworks to achieve great UX design - and ensure you create satisfactory results for every student.

Introduction to AI for Learning

Implementing with AI

Implementing your learning materials with the assistance of AI can further speed up your content delivery.

Typically, you will spend less time on the following:

- LMS administration.
- eTutoring.
- Localisation.



This means you will have more time for:

- Social learning.
- Personalised feedback.
- Learning marketing.



Some of the AI tools that you could consider this phase would be D-ID, degreeed, openlearning, and 360 learning.

A big benefit of AI during the implementation phase is that it will be easier to get feedback on what you developed. You will be able to gather data on where you could improve, as well as what worked and resonated the best with your audience.

Introduction to AI for Learning

Evaluating with AI

In this fifth step, AI can play a fantastic role in creating connections between students, as well as between students and their lecturers who crafted the content they have been studying.

Typically, you will spend less time on the following thanks to evaluating with AI:

- Data analysis.
- Assessment delivery.
- Learner communication.



This means you will have more time for:

- Showcasing value.
- Learning insights.
- Assessing skills.



Using apps such as Quizalize (which is great for gamification), and Bongo (which allows students to interact with one another and their lecturers as well as showing their skills that they learned when they have digested their course content) are great ways for evaluating the learning materials that you developed with AI.

Introduction to AI for Learning

Recapping the benefits of AI in learning design



Reduces

- Administration
- Content Curation
- Content Creation
- Authoring
- Content Mapping
- Data gathering



Enhances

- LX Design
- UX Design
- Universal Design
- Performance consulting
- Skills based learning design
- Data driven learning design



Now that we have covered the principles and benefits of AI in learning design, we will continue with the application of AI to learning and education (with suggested tools) in Chapter 2.

The Application of AI to Learning and Education

(with suggested tools)

The Application of AI to Learning and Education

When it comes to applying AI in learning and education, there is no denying that educators can reap several rewards when they embrace these technologies.



These include ^[10]:

- Opening up new channels of education.
- Getting real-time feedback.
- Automating tasks.
- Anticipating various levels of comfort for student learning.
- Being more adaptive according to students' learning processes.
- Getting improved feedback that can benefit course content creation.
- Enhancing communication processes between students and educators.
- Potential better learning outcomes thanks to students being empowered to learn more effectively with AI tools that provide better benefits that surpass traditional learning methods.

Furthermore, AI can assist with creating a common educational vision – which means that processes can still be streamlined and that any content an institution develops can still adhere to common goals, instead of going off the point.

However, it is important that when using AI, there are different considerations for each application – and educators and content creators need to bear in mind what these differences are.

In this chapter, we will be reviewing these applications, as well as suggested tools and how each can be used successfully.

Let's start with reviewing how AI fits into the instructional design process.

The Application of AI to Learning and Education

Application to instructional design

Applying AI to instructional design is not simply a case of feeding an AI tool a topic and then sitting back to wait for content to appear.

Rather, AI in instructional design can provide the base for creating custom learning paths ^[12] that are aligned with specific learning outcomes, as well as the needs of students and their capabilities.

As a content creator, you can leverage AI to create interesting and successful learning experiences – provided that you adhere to best practices.

These include:

- Clear, simple content that is in line with your desired learning objectives.
- Providing trusted content that is fact-checked, error-free and without any grammatical errors.
- Curating content that has no jargon or vagueness.
- Frequently analysing content to ensure that it will achieve the goals that have been set out by an educator.

Instructional design content developers also need to be mindful of content checks that will ensure there is no plagiarism in content provided by AI. Bear in mind that plagiarised content can potentially slip through in AI-generated copies – so always include using a plagiarism checker in your planning phases.



Also, never see AI as a substitute for “human” instructional design content. It remains a tool that needs to be used mindfully, and as a starting point for content creation.

With this in mind, let’s continue to considerations for using AI tools during content development for learning design.

The Application of AI to Learning and Education

Application to content development

As a first consideration, AI as part of the learning design content development process needs to facilitate creating appropriate content for a specific course. There needs to be structure, a clear narrative and a logical flow of information given.

To achieve this, content needs to be succinct, valuable and contain no fluff or “filler content”.

Where AI tools certainly can assist content developers is generating suggestions for course outlines. When curating material from scratch, it is important to have the right framework in place, and this is where AI can help.

Educators who are struggling to create starting points for content chapters or how to structure content for modules can draw on AI tools for inspiration and guidance. This can significantly speed up the content development phase as the challenges for curating content are reduced.

If an educator already has a rough draft of a course module outlines, AI can play a valuable role in suggestions for improving chapters or adding additional content that would make sense when considering learning outcomes.

Speaking of these outcomes: AI can also help learning design content creators build guidelines for copy, such as the tone of content and desired learning outcomes. In other words: Typical “rule book” content that can be used for future course modules as well.



The Application of AI to Learning and Education

Application to content development

Here are some more content development considerations:

The importance of using the correct prompts when generating AI content

At this stage, it is important that content creators know how to create prompts that will generate the right content for the modules that they are developing.

Whether you will be using AI to create copy or visuals ^[13], there is one golden rule that you need to keep in mind: Always provide clear, detailed prompts. Use the right keywords, no matter which tool you use, and regenerate if you do not get the best results.

During this phase of your content development, it is important to be thorough – just a reminder to not use clashing statements that could cause you to regenerate the same sets of copy or images over and over again.

Be careful of AI images or AI voice actors that display incorrectly or look offensive

As fun as it can be to generate AI images or even human likenesses as part of your content presentations, it is important that you critically review how visuals look and whether it looks distorted, or could be a cause of viewers feeling offended.

Sometimes, AI tools could generate images with strange features or even weird dimensions, so ensure you do not include any visuals that look unprofessional or strange. Remember: You do not want to distract your students' learning journey with warped imagery that will impair their focus.

In our tool list, you can view a selection of AI tools that you can consult to create good imagery – as a rule of thumb, try out a couple of options to see which would work the best for you and your learning content practices.

The Application of AI to Learning and Education

Application to content development

Ensure that you do not use biased content

AI systems are trained on data, and if that data is biased, the AI system will be biased as well. This can lead to problems with content that is not 100% accurate. Therefore, ensure that you steer clear of facts that are not proven or are only based on opinion.



More best practices when using AI for content development

Here is a quick list of considerations to keep in mind when using AI to generate your content ^[14]:

- As mentioned, always check the facts of the written content that your AI tools generate. This might feel like an extra step that is not needed, but keep in mind that AI is not beyond pulling outdated online information.
- As powerful as AI tools are, they do have their limitations – such as copy repeats or only being able to craft images to a certain point. So, be aware of the limitations that you will face and where you will need to provide your own input.
- If you are creating content, remember to not forget your role as an editor. Ensure that your copy is type-free and that it passes plagiarism checks.
- Do not let your own creativity fall by the wayside. Ensure that there is still that “human” element to your content, and steer clear of content that lacks a personal touch.
- Always remember: AI is a tool and should never be a substitute for your professional work or input.

The Application of AI to Learning and Education

Application to tutoring

One of the biggest benefits that AI provides for tutoring is an always-on, 24/7 availability ^[15]. Chatbots, as examples of conversational AI, can assist students with basic question prompts, or even guide them to the study materials that they are looking for.

And for learning designers who are curating content for multilingual student groups, AI can make it easy to translate content that is clear, understandable and grammatically correct.

Communication is key when it comes to ensuring that students can master their content when they need extra guidance – therefore, tapping into the functionality of AI can ensure that they are always just a click of a prompt away from getting the solutions that they need.



The Application of AI to Learning and Education

Application to accessibility

In the same vein as tutoring, accessibility is easy to achieve with the use of AI.

Think for a moment especially about learners who might be facing physical, visual or mobility difficulties ^[17]. With AI, they can get incredible, anytime AI powered virtual assistance. They can get expert captions for videos and better image descriptions to allow them to effectively digest learning content.

AI can, therefore, break down barriers that might hold back students from achieving their learning goals. Including AI as part of the learning design process can make the transfer of learning content more effective and accurate.

Furthermore, AI can assist learning content developers to identify gaps in their content where improvements can be made to make it more accessible for all students.

Using AI to improve content can ensure that all students can easily grasp the content conveyed, and do not face any difficulties when it comes to achieving their learning goals. This is why AI is also a key

goal to develop learning outcomes: These can serve as the standards to which copy needs to adhere, and guide content developers where changes need to be made.

Another aspect of accessibility is how AI can be used to improve accessibility, is by translating content into different languages.

This can make content more accessible to people who are not fluent in the language in which the materials are originally written. Educators can draw on AI resources to save time and make it easier to serve content to students in languages that they are comfortable in.

AI can furthermore be used to provide real-time feedback to learners as they are working through learning materials. This can help learners to identify and correct mistakes, and to keep on track with their learning.

Where AI tools truly come into their own when it comes to accessibility, is by automating tasks that educators would typically perform manually. This means they have more time to focus on providing individualised support to learners, while also ensuring that the content that they create is inclusive for all students.

The Application of AI to Learning and Education

Application to accessibility

Some tools that learning content developers could consider to make their materials more accessible include the following:



Microsoft's Seeing AI app:

This app uses artificial intelligence to create audio descriptions of text and image content for users who are blind or have impaired vision.



Google's Live Caption feature:

This feature enables those who are hard of hearing or deaf to follow conversations and watch videos by automatically creating captions for audio in real-time.



Coursera's AI-powered accessibility tools:

Coursera offers a range of accessibility tools, including real-time captioning, text-to-speech, and translation, to students. These features are powered by AI.



Khan Academy's AI-powered personalised learning platform:

Khan Academy uses AI to personalise learning materials according to the needs of learners. This ensures that all learners have equal access to the learning materials, regardless of their abilities.

To recap: AI can be used to create more engaging and interactive learning experiences. And when content is easily accessible, can be understood well and can be digested without problems, this can help to keep learners motivated and engaged in the learning process.

The Application of AI to Learning and Education

Application to assessment



The benefits of AI don't stop at content development and the delivery thereof. AI can also play an important role in the assessment portion of learning design.

A big benefit is increasing how often assessments can happen ^[18] thanks to AI speeding up the assessment process in an effective, constructive way that makes sense in terms of both quality control and improving content as needed to align with the needs of students.

AI can eliminate that barrier of time constraints that can hamper the flow of learning content from development to review. It can make it easy to make recommendations, and gauge where improvements are needed.

Now, let's take a closer look at the benefits of AI as part of the assessment of learning design content.

The Application of AI to Learning and Education

Application to assessment

Automated grading is enabled

One of the most time-consuming tasks for educators and content developers is grading student work. It can take time. It can get frustrating. And the process can also add extra stress to time-strapped content creators who need better solutions for grading work.

Luckily, using AI tools can allow content creators to work smarter (and not harder) to speed up the grading process.

AI can be used to automate grading, which frees up educators' time so they can focus on more important tasks, such as providing personalised instructions for students. AI-powered grading systems can be used to grade several types of student work, including essays, exams, and coding assignments.



An important note here:

Always use a trusted, proven AI tool to ensure that the grading process proceeds smoothly and accurately.



The key goal here is to gather data that is true and that illustrates how students experienced certain pieces of content.



The Application of AI to Learning and Education

Application to assessment

Bear the following tips in mind:



AI is not perfect, and it is important to use AI-powered grading systems in a way that is ethical and responsible.



Students also need to know how AI models are used to grade their work.



Ensure that the AI model that you use for the grading process is accurate and consistent.



Content developers need to monitor the performance of the AI models used for grading to assess performance and where adjustments will be needed.



Always apply human judgment, even if you are using an AI tool.



Once you have the right AI tool in place for grading purposes, have tested its efficiency and know how to use it optimally, you will be able to successfully go through the assessment process and make the right recommendations.



Always maintain transparency about how an AI model is being used for grading purposes.

The Application of AI to Learning and Education

Application to assessment



Faster feedback

Getting instant feedback ^[19] is often an important need for students. When feedback takes too long, it might create confusion on whether a student was successful in working through the content they worked through, and whether the outcomes they could expect are negative.

With AI tools, instant feedback to students becomes feasible.

AI-powered systems can grade student work faster or analyse their responses to questions more swiftly than it would have taken when work was marked manually.

Instant feedback can help students to identify and correct mistakes, and to stay on track with their learning.

Here are some more benefits of faster, AI-backed feedback to consider:

- ✓ Improved learning outcomes: Faster feedback can help students to learn more quickly and effectively. This is because students are able to identify and correct mistakes sooner, which can help them to master concepts more quickly.
- ✓ Increased motivation: Faster feedback can help to increase student motivation. This is because students are able to see their progress and get encouragement more often, which can help them to stay on track and motivated to learn.
- ✓ Reduced anxiety: Faster feedback can help to reduce student anxiety. This is because students are not left waiting for feedback for long periods of time, which can cause them to feel anxious and stressed.
- ✓ Improved communication with educators: Faster feedback can help to improve communication between students and educators. This is because students are able to get feedback on their work sooner, which can help them to clarify any misunderstandings and get the help they need.
- ✓ Increased engagement: Faster feedback can help to increase student engagement. This is because students are able to get feedback on their work more often, which can help them to stay engaged in the learning process.

The Application of AI to Learning and Education

Application to assessment

A word of caution: Always bear in mind that the goal here is not to just achieve speed just for the sake thereof. The main aim of faster feedback is to get better real-time feedback, using technology, such as Google Classroom, for instance, to allow students to get the information they need without needing to wait weeks for a turnaround on feedback.

AI can also help content creators be more organised. They can become more efficient and track student progress, which would inform future content developments and improvements as needed for course materials.

Predictive analyses, learning analytics and identifying knowledge gaps

Being able to predict certain behaviours or outcomes can certainly benefit the learning design process.

Using AI tools in learning design can assist predictive analyses
[19] in the following ways:



It can assist adaptive learning: When using trusted AI algorithms, content creators can evaluate data on students' past performances, which can assist them in shaping adaptive learning plans. These plans can then guide students towards a more effective and efficient way of learning. AI can further assist in tapping into student interests, how long they would typically stay engaged during learning sessions and how long they would typically take to complete certain tasks.



It can help in identifying students who might be struggling with content or who might be at risk for other factors: From grades to tardiness, AI can play a key role in quickly finding out whether there are students that will need more assistance with working through content. This will allow learning design content creators to better understand what students are struggling with, and what additional support (AI-driven or personal) will be needed. Being able to have some form of "future vision" can save content creators a lot of time, as they will have used AI and know how to improve content in advance.

The Application of AI to Learning and Education

Application to assessment

When considering learning analytics, it's critical to keep in mind that there should be no way for students to feel as though they are being "watched" or scrutinised.

Instead, it is a method whereby data concerning knowledge gaps, data that tracks student development, and data that forecasts future performance may all be obtained using AI.

After compiling this data, a content creator can examine certain concepts in more detail to see if any learning concepts require the use of additional resources.

This procedure typically entails using AI to examine students' answers to questions, essays, other kinds of exams, or whichever data is needed to get valuable information.

AI can also be used to get valuable insights into what is working, and what is not, in the learning process. This can be done by analysing data about student learning, such as grades, test scores, and participation. AI-powered systems can identify patterns in this data that can help educators to make informed decisions about how to improve instruction.



The Application of AI to Learning and Education

Application to assessment



Prioritising trust

It is important to prioritise strengthening trust when using AI in the assessment of learning content. This means being transparent about how AI is being used, and ensuring that students understand how their data is being collected and used.

Educators should be informed and involved in the development and use of AI-powered assessment systems and how they can foster trust. This will help to ensure that the systems are aligned with the goals of the educational institutions that they work for, and that they are used in a way that benefits students.

Gamifications

Gamification adds an element of fun into the assessment process. Some examples ^[20] include point scoring, quizzes, and even badges in some cases.

These elements can be used to help students to stay motivated and engaged in the learning process.

If you choose to use AI tools to gamify your learning content, do keep the following in mind:



Ensure that the gamified elements relate to the learning objectives you have set out for students: These elements still need to help students learn and should not just entertain for the sake of entertainment.



Don't overdo the gaming elements in your learning design content: Gamification can be effective when used in moderation; however, be careful that it doesn't overshadow the main goals of your content.



Do remember to customise your gamification elements according to your target audience, and ensure that there is still value in these content pieces.

Let's move on now to suggest content tools that you can use in your AI applications.

The Application of AI to Learning and Education

Suggested tools

Before we get started, just a reminder that AI tools often develop at a lightning fast pace. So, ensure that if you are planning to develop learning content with the help of AI, that you stay on top of the latest developments and best practices.

Now, let's look at a current list of options that you can consider as part of your content creation process.

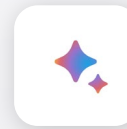
Text Generating

Text Generating AI tools are advanced systems that use machine learning, in particular natural language processing (NLP), to generate coherent and contextually relevant texts. These tools learn from vast amounts of data, understand syntax, semantics and context to produce human-like texts. They can be used for a variety of applications, including content creation, chatbots, writing support and more.

Recommended tools to try:



Chat GPT



Bard AI



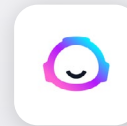
Copy.ai



Genei



Huberman AI



Jasper



Writesonic



ID-Assist

The Application of AI to Learning and Education

Suggested tools

Voice Over

Voice Generating AI tools, often referred to as text-to-speech (TTS) systems, convert written text into spoken words using sophisticated machine learning techniques. These AI-driven tools are able to simulate human speech patterns, tone, inflection, and even emotions, producing highly natural and intelligible voice outputs. They have a wide range of applications, including audiobook narration, voiceovers, voice assistants, accessibility aids and more.

Recommended tools to try:



ElevenLabs



Murf



Overdub by
Descript



Resemble AI



Speechelo

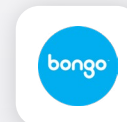


WellSaid Labs

Video

Video Generating AI tools use advanced machine learning and artificial intelligence techniques to create, edit or improve video content. These tools can generate synthetic video content, automate video editing processes, apply effects or improvements, or even animate static images. They use technologies such as deep learning and generative adversarial networks (GANs) to understand and replicate complex visual patterns and movements.

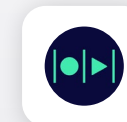
Recommended tools to try:



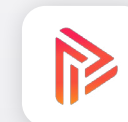
Bongo.ai



D-ID



Magisto by Vimeo



Papercup



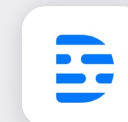
Pictory.ai



RawShorts



Synthesia



Descript

The Application of AI to Learning and Education

Suggested tools

Presentation/Infographic/Web Pages

Some AI tools use artificial intelligence to automate and improve the creation of visually appealing and effective digital content. These tools can generate high-quality presentations, infographics and web pages with minimal user input, handling aspects such as layout design, colour scheme selection and typography. They can also incorporate data visualisation elements and turn complex data into easily understandable visuals. These AI tools help streamline the content creation process and make it accessible to users without design expertise.

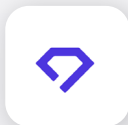
Recommended tools to try:



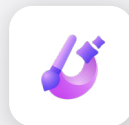
Beautiful



Canva



Durable.ai



Microsoft
Designer



Miro



Tome



Uizard

Imagery

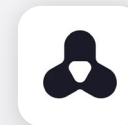
Imagery pages Generating AI tools use artificial intelligence to create, improve and customize visual content, including digital images and graphics. These sophisticated tools can automate design processes, create original visual content or adapt existing images to specific requirements. They often use machine learning to understand aesthetic principles and generate visually appealing and contextually relevant images. These tools simplify the graphic design process and enable users with little or no design skills to create professional-quality images.

Recommended tools to try:

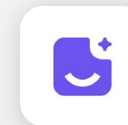


Canva

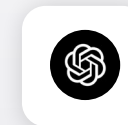
(new functionality of
entering text prompts
to generate images)



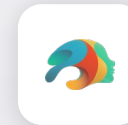
Artbreeder



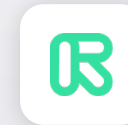
Booth.ai



Dall-e



Daz 3D



Runway ML



This person
does not exist

The Application of AI to Learning and Education

Suggested tools

LXPs

Learning Experience Platform (LXP) Generating AI tools uses artificial intelligence to curate, personalise and improve online learning experiences. These platforms can create adaptive learning paths, adapt content to the needs of individual learners, and facilitate social learning and collaboration. They can also recommend learning materials based on user behaviour and preferences, thereby promoting continuous learning and development. Essentially, these AI tools help to create a more engaging, personalised and effective learning environment.

Recommended tools to try:



360 Learning



Degreed

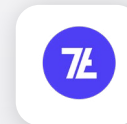


Openlearning

Authoring Tools

Authoring tools use artificial intelligence to streamline and improve the process of creating digital learning content. These tools support the design, development and publication of e-learning materials, such as online courses, quizzes and interactive media. They often offer AI-powered features, such as automated content generation, adaptive learning paths, and data-driven insights. These AI tools make the creation of engaging, personalised e-learning content more efficient and accessible, even for those without advanced technical skills.

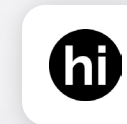
Recommended tools to try:



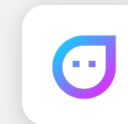
7Taps



EasyGenerator



hiCreo



Nolej



Quizalize



Quillionz

The Application of AI to Learning and Education

Suggested tools

Coding

AI has transformed coding by automating tasks, suggesting optimizations, and even generating code. Combining AI tools with human expertise can achieve even greater coding feats.

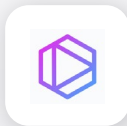
Recommended tools to try:



GitHub
Copilot



Amazon
CodeWhisperer



Tabnine



Replit

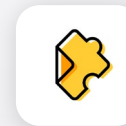
ChatGPT Plug-ins

A plug-in, also known as an add-on or extension, is a software component developed by third parties that improves the capabilities of a host program without changing its core structure. Essentially, plug-ins enable the enhancement of a program's functionality or the integration of new features, extending the program's versatility beyond its original design.

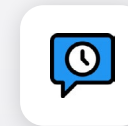
Recommended tools to try:



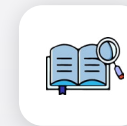
Botrush



Edpuzzle



Save ChatGPT



Summarizer



Voice Control

The Application of AI to Learning and Education

Additional tips when making use of AI tools

Now that we have covered the different applications of AI and tools that you could consider, we will be moving on to our final chapter: How to get started with AI in learning design.



Always consider the implications of copyright and plagiarism. Ensure that you check your written content for originality.



Stay up-to-date. AI technology is constantly evolving. Make sure to stay up-to-date on the latest developments in AI so that you can use the most effective tools in your classroom.



Don't hit the ground running – start small and test a few features of the AI tool(s) you would like to use. Once you are comfortable with a platform, you can try out more features.



Do not use tools that will not add any value to your learning content. For instance, if you do not need to create elaborate visuals, do not spend hours generating AI images when you could have been using your time more constructively.



Experiment with more than one tool. There is no one-size-fits-all approach to using AI tools in learning design. Experiment with different tools and different settings to find what works best for your students.



Speaking of AI visuals: Never use AI-generated imagery that could be seen as offensive or looks disjointed. Using distorted images or videos can cause students to potentially lose focus or, on the other hand, focus more on the imagery that doesn't make any visual sense.



Get feedback from students. Ask students for feedback on how they are using AI tools in the classroom. This feedback can help you to improve the way you are using your AI tools.



When generating AI content, always be mindful that you are still an editor and need to review content for grammar, flow and any errors that there might be. Always ensure that you still bring in that human element in your AI content.

Getting Started with AI in Learning Design

In our last two chapters, it has certainly been highlighted that AI is increasingly transforming the education landscape.

From creating personalised experiences for students [21] and improving opportunities to enhance teaching and learning, there is so much that AI brings to the table.

Also, as AI tools allow educators to have more free time to focus on creative and strategic work, there is without a doubt a lot of potential to tap into the various opportunities that AI tools offer.

Here are some initial considerations when starting out with AI in learning design.

Getting Started with AI in Learning Design

Tips for starting your journey with AI the right way

**1**

Set clear goals for what you want to achieve.

What do you envision with the AI tools you are planning to incorporate into your learning design content? Do you want to personalise learning modules, have the capability to provide real-time feedback to students, or do you want to automate tasks to free up time for other focus areas? Once you know your goals, you can start to identify the specific AI tools and techniques that can help you achieve them. Don't forget, you can even consult AI tools to help you generate goal ideas if you get stuck!

2

Assess the needs of your students – and yourself.

What are the specific essentials that your learners would like to see in their learning content? What are their learning styles and preferences, and are there certain learning methods that could impact the success of their studies? What are their areas for improvement and how will your content solve these problems? Let these topics inform how you approach your AI content creation – and don't forget to consider your own needs too. Keep in mind that you will need to be able to manage your content effectively as well – so, do not use an AI method that you yourself would struggle with.

3

Find the right tools.

There are a wide range of AI tools and platforms available, so it's important to do your research and find the right ones for your needs (refer to Chapter 2 for a full list).

Some popular AI tools for learning design include:

- Chatbots that can be used to provide personalised support and guidance to learners.
- Virtual assistants that can automate tasks such as grading assignments and answering questions.
- Learning analytics tools that can be used to track learner progress and identify areas for improvement.
- Personalised learning platforms that can be used to deliver customized content and activities to each learner.

Getting Started with AI in Learning Design

Tips for starting your journey with AI the right way

4

Get buy-in from stakeholders.

You want full support of your learning institution or company when it comes to using AI tools for learning content creation. Therefore, it is important to get buy-in from key stakeholders before you start using AI that you haven't properly explained or elaborated on. Ensure everyone is on the same page regarding the goals of using AI and that they understand the benefits and challenges that these tools offer. Make sure that you provide information on how these AI tools will be used ethically and how they will benefit the learning process. Also, offer a short demonstration to show how the AI tools you will be using work.

5

Pilot and iterate.

Once you have a plan in place, it's important to pilot your AI-powered learning experiences and get feedback from learners. This will help you identify what's working well and what needs to be improved. Be prepared to iterate on your designs as you learn more about what works for your learners.



Getting Started with AI in Learning Design

Questions for consideration

To recap, let's have a look at some key questions below that you need to keep in mind when creating AI-driven content:



Who is your target audience and what is their level of comfort with AI-generated learning content?



What are the specific goals you want to achieve by using AI in your learning design?



What are the specific needs of your learners?



What are the challenges that your learners might face when it comes to learning content formats?



What AI tools and platforms are available to meet your needs?



Do you have enough practice with certain AI tools to use them effectively?



Are there certain AI tools that could offer you better results than others?



Do you know the ethical considerations of using AI-generated content? Do you understand copyright infringement and the importance of fact- and plagiarism-checking?

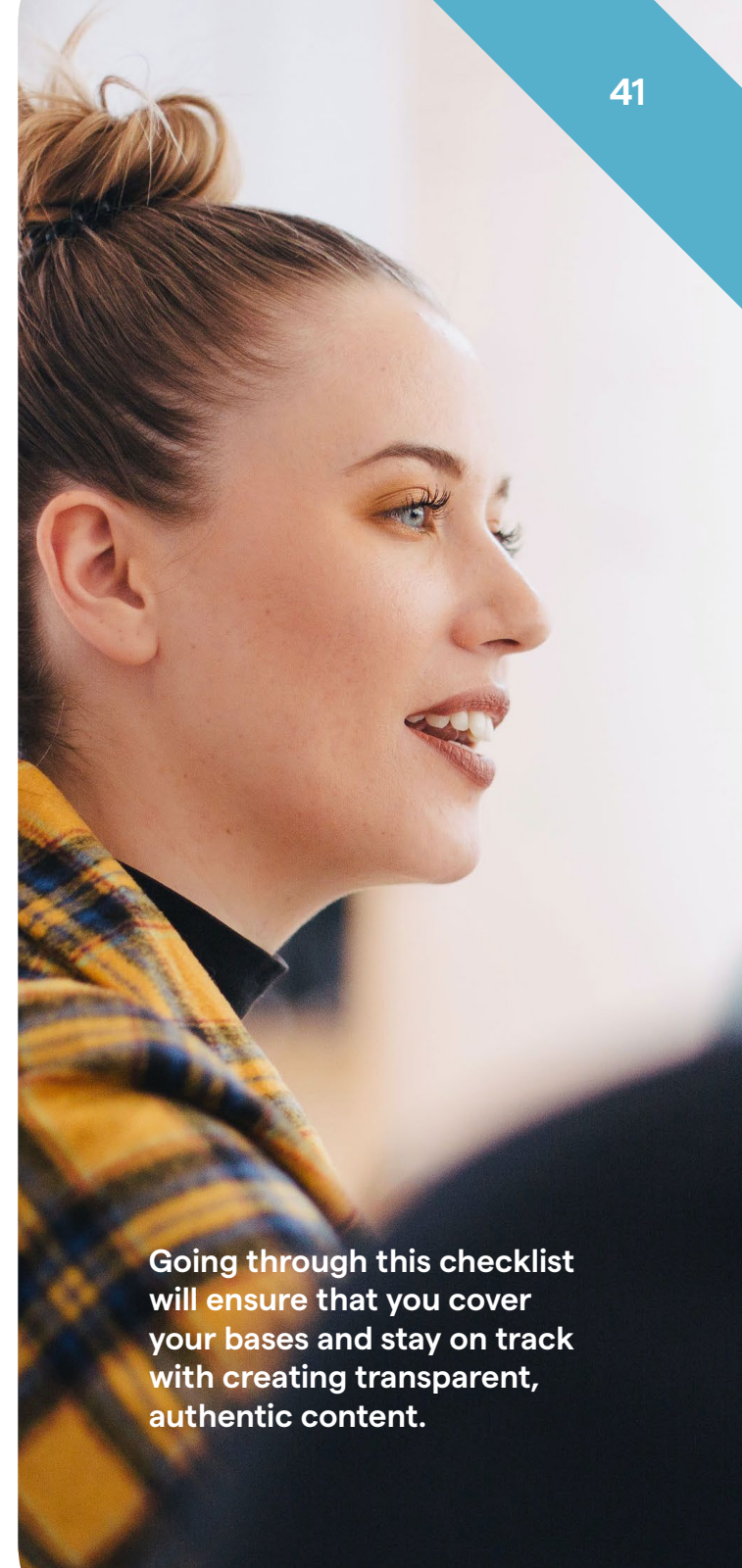


How will you pilot and iterate your AI-powered learning experiences?



Who are the key stakeholders who need to be involved in the process?

Going through this checklist will ensure that you cover your bases and stay on track with creating transparent, authentic content.



Getting Started with AI in Learning Design

Next Steps

In this eBook, we have covered key avenues to consider when it comes to the impact and application of AI in learning design.

As a final sign off, let's review your next steps to ensure you stay on track with your learning design journey with AI.

1

Start by reading more about the benefits of using AI in education. The human impact on education will always be of key value, but it is important that stay aware how AI can provide assistance for the education process. Take the time to read up on latest developments of AI in the educational space, and how using AI tool can help you improve your own content creation processes.

2

Attend a conference or workshop on AI in education. These types of events have the potential to introduce you to AI tools and a new way of working when it comes to bringing in the benefits of AI in learning design. A good idea for this could be to also join LinkedIn groups or Facebook groups where events are advertised and offered – so, consider following relevant profiles that can put you in touch with the resources that you need.

3

Talk to other educators who are using AI in their classrooms. Have they had any challenges? Are there some tools that they struggle with using? What are their students saying? And which AI tools have they had the most success with? Getting that in-person feedback will allow you to get input from your peers that can guide you on which AI tools to use to achieve success in your own learning design process.

4

Experiment: Start small and pilot an AI-powered learning experience with a small group of learners. Testing out content that you developed with a test group can be a perfect way of determining whether certain content formats or approaches are working, and where you need to tweak your content. Your student group can provide valuable feedback on what they would like to see or experience in learning materials, making this step a vital part of getting started with AI in learning design.

5

Be patient and persistent. It takes time to develop and implement effective AI-powered learning experiences. However, once you are comfortable with bringing AI into your learning design processes, it will get easier to develop content that works – for you and your students.

Final thoughts

AI will certainly bring about even more changes to the education realm as more tools are developed and brought into the digital space.

Therefore, it is important to always stay on top of changes in the educational content creation realm and how AI can be used in an ethical and transparent way to create meaningful learning content.

We hope you enjoyed the insights provided in this eBook and look forward to hearing your thoughts. Feel free to get in touch with our team if you would like more information on bringing AI tools into the content design process – we are here to assist you!



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