LEARNOVATE
Leading Learning Innovation

The User Onboarding Experience for Generative AI –

What can I do and how do I do it?

Authors:

Dr. Bilal Ahmad
Janet Benson
Dr. Richard Harte

TECHNOLOGY CENTRE
ENTERPRISE IRELAND
IDA IRELAND SUPPORTED

Trinity College Dublin
Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin

Learnovate Report

This report was created by Learnovate at Trinity College Dublin.

1. Executive Summary

The purpose of this report is to identify what the user onboarding process may look like for non-technical people using Generative AI (GenAI) tools such as ChatGPT, which is currently being used across a range of contexts including education, research, media, and customer service. User onboarding is the process of educating new users on how to best use a new technology to solve their problems and satisfy their needs. This report looks to identify how users engage with these types of tools and how they learn to use them, including where they go for guidance and support.

According to consulting company McKinsey, generative AI has the potential to reshape talent acquisition and development, and performance management. And a survey conducted by Adobe with more than 6,000 employees across the US, UK, Australia, India, and Japan, found that 61% of respondents said it helps them to work faster.

The research presented in this report includes findings from desktop research into the latest literature relating to GenAI, insights from the workshops conducted as part of the Learnovation Summit held in October 2023, and data from a survey shared by the Learnovate team with its wider network through social media in November 2023.

As a starting point, the research team asked ChatGPT: *How can I learn about ChatGPT?* These are some of the responses provided by the tool:

'Learning to use ChatGPT involves understanding how to interact with the model through text input and processing the generated responses. Here are the general steps to get started:

Formulate Clear Input:

- Start by formulating your input in a clear and specific manner. The input should be well-structured to receive meaningful responses. For example, if you want information about a specific topic, ask a clear question.

Receive and Process Output:

- Once you've submitted your input, you will receive a model-generated response. Process and analyse the output to understand the information or context provided.

Iterate and Refine:

- If the initial response is not what you're looking for, you can iterate by refining your input. You may experiment with different phrasing or provide additional context to guide the model in generating a more accurate response.

Understand Limitations:

- Keep in mind that ChatGPT has limitations. It may generate plausible-sounding but incorrect or nonsensical answers. Be critical of the output and verify information when needed.

Community and Resources:

- Join the OpenAI community forums or other relevant online communities to learn from others, share experiences, and get assistance if you encounter challenges.

Remember that using ChatGPT effectively may require some trial and error. The more you interact with the model and understand its behavior, the better you can refine your approach to get the desired results.'

From the research conducted as part of this report, the consensus appears to be that while GenAI has the capacity to change much of how we work and learn, the adoption of any new technology should be approached with caution.
Ensuring that users obtain information from trusted sources is key to a successful user onboarding experience, with courses and evidence-based research that provide users with accurate and verifiable information.

As GenAI continues to be developed at a rapid pace, the Learnovate Centre will continue to provide regular updates and information based on research and industry best practices.

2. GenAI Simply Explained

Most people have probably heard many terms related to the latest advances in Artificial Intelligence (AI) technologies, but it is worth recapping to set the scene for this report. These terms may include Generative AI, Large language Models, Conversational AI, and neural networks.

- **Generative AI (GenAI)** is a type of Artificial Intelligence, which can create content such as texts, images, and video, based on its training. It is trained by using large amounts of data from various sources. Clever algorithms look for patterns in the data. While Generative AI is not a new concept, it has become a much more powerful technology because the methods used to train Generative AI models have become much more efficient.
- **Neural Networks** are one particular technique for looking for patterns in data. The technique is roughly based on how the brain is made up of a network of interconnected brain cells called neurons. Like the concept of Generative AI, neural networks are not new, but have become much more popular and powerful in recent years due to improved computing efficiency.
- **Large Language Models (LLMs)** are a type of Generative AI which focuses on text. Basically, a Large Language model is trained using very large amounts of text data. It uses this training to produce text outputs in response to prompts and parameters. LLMs are trained using neural network models.
- **Conversational AI:** Basically, a fancy term for a chatbot! With the advances in technology in the last couple of years, companies such as OpenAI[1] have been able to create user interfaces such that users can interact very easily with GenAI tools. One very popular conversational AI tool developed by OpenAI is called ChatGPT. Due to the authenticity of the language outputs, it is quite easy to emulate a coherent conversation with ChatGPT and similar tools.

[1] https://openai.com/

As well as these key terms, there are a number of GenAI tools which many people may have heard about. We have already mentioned **ChatGPT,** which is an LLM based conversational text AI tool created by OpenAI. This is no doubt the most well-known and most used GenAI tool. ChatGPT operates on a freemium model, whereby users can access a free version called ChatGPT 3.5 or pay a subscription to a more advanced version called GPT 4, which is known commercially as ChatGPT Plus. **Dall-E** is another GenAI tool developed by the company OpenAI and is focused on the generation of images, using a modified version of Chat GPT. Like ChatGPT there is a free version available to all users and a more advanced version available to ChatGPT Plus users. **BingChat** is an integration of Microsoft's Bing search engine with GPT 4. Unlike the standard Bong search engine, Bing Chat allows users to engage in conversation with the engine much like ChatGPT. Bing Chat is becoming popular because it allows users to access GPT 4 for free. **Google Bard** is Google's version of a conversational GenAI tool. It is based on LaMDA, which is a different LLM to ChatGPT. Of course, there are many tools available and there are ever evolving online lists of currently trending GenAI tools[2].

Given the rapid rise of GenAI and its associated tools, there has been very little time for average users to widely learn about and adopt its use in an effective way. If we think about the technology adoption curve, we are still probably only climbing the curve towards early majority adoption, although it can be argued that wider use of ChatGPT, however informally, has overcome the chasm of wider adoption.

[2] https://www.turing.com/resources/generative-ai-tools

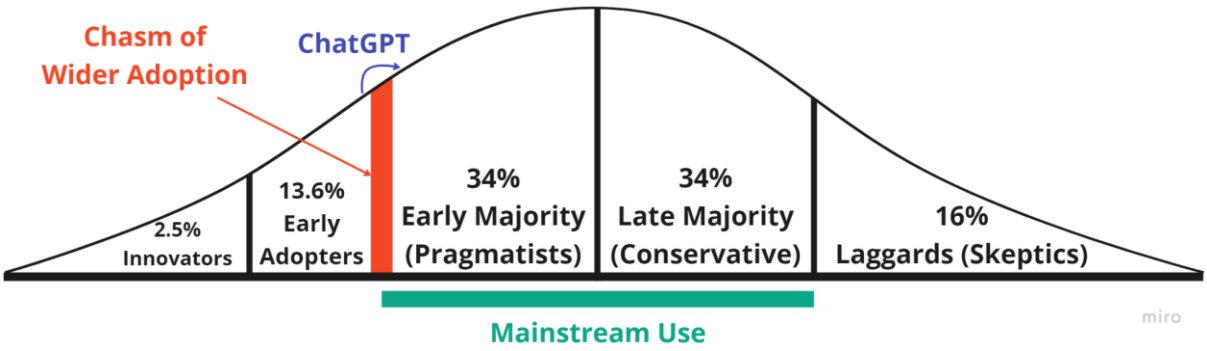

Figure 1: Chat GPT has helped overcome the chasm of wider adoption

In terms of industry adoption, the latest surveys indicate that the majority of organisations are still experimenting with the use of GenAI, but the level of 'limited use' is increasing[3].

Figure 2: Survey on GenAI adoption in organisations (from datanami)

[3] https://www.datanami.com/2023/11/14/will-mass-adoption-of-genai-lift-traditional-ai/

3. How and where do I learn about these new tools?

Good question, and that is the main purpose of this report! Some common questions one might ask before using any GenAI tools are:

- What can I use them for in my context? (i.e., education, research, industry use cases)
- Where do I go to learn about these new technologies
- What sources can I trust?
- Are these tools safe?
- Do I need to sign up or pay?

User onboarding is the process of educating new users on how to best use a new technology to solve their problems and satisfy their needs. At Learnovate, we are particularly interested in how users learn to use novel technologies, and what learning sources they go to. For example, we could imagine a second level teacher trying to find out how she could use a GenAI tool within her classroom to generate new learning content, analyse student feedback or help with classroom management. Where would this teacher go to answer the questions we have outlined above?

It should be stated that many learning resources are more aimed at technical users. Even courses that start out with a very basic introduction to GenAI can quickly start introducing terms like transformers, labelling and classifiers that the average user may just not want to know about. However, we have picked a number of online learning resources which we think could be helpful for users to get started but may also be helpful for users who want to get under the bonnet.

GenAI for Everyone (https://www.coursera.org/learn/genai-for-everyone)
This is a free Coursera course which offers a crash course in GenAI. It focuses on bringing learners who know little to nothing about GenAI up to a point where they could comfortably discuss some of the core concepts of GenAI, without too much technical language. For

example, it focuses a lot on the practical everyday use of GenAI in virtual assistants, chatbots, and personalized recommendations.

Elements of AI Course (https://course.elementsofai.com/)

If you want to know all the basics of AI, including some of the more technical jargon then this is a great course to get started. It is very graphical and visual and will probably satisfy the learning requirements of many learners. However, it does start to get more technical with introduction to concepts like Bayes classification and Neural networks so it may not suit learners who just want to know about the more practical side of AI use.

Teaching & Learning in the Age of GenAI (https://genai.sites.gettysburg.edu/genai-201/)

For educators who are interested in the use of ChatGPT, Gettysburg College has gathered together some very accessible resources for learners who just want to know the basics about how ChatGPT works and what it can be used for within classrooms. The resources also offer insights into the potential positive and negative effects of GenAI on students and general education.

Toolkit for the Ethical Use of Generative Artificial Intelligence in Learning & Teaching (https://www.ucc.ie/en/media/support/cirtl/UCCToolkitfortheEthicalIntegrationofGenAIinLearningandTeaching.pdf)

This report by University College Cork offers a comprehensive introduction to GenAI tools for education, explaining key terms and concepts. In particular, it provides guidance on ethical issues and other concerns educators may have. The report also explains what GenAI is good for and what it is not good for. Much of the guidance would also apply to second level teachers.

How to use GenAI to create value for your business

(https://www.pluralsight.com/resources/blog/leadership/creating-business-value-generative-ai)

While this report by Pluralsight does not provide an exhaustive list of business use cases for GenAI, it will offer food for thought for corporate learners and how they could leverage AI

tools within their business. The report also suggests tools that could be used for each use case, allowing users to explore GenAI tools beyond the most well-known ones like ChatGPT.

ChatGPT: Jack of all trades, master of none

(https://www.sciencedirect.com/science/article/pii/S156625352300177X)

And finally, for anyone who wants to understand the rise of Chat GPT and why it changed things so much in the world of AI and natural language processing, then this article by the Wrocław University of Science and Technology will provide a great overview of the tool. A summary from the article of why Chat GPT is different to previous GenAI tools is shown in Figure 3. It is evident from this comparison that for dedicated tasks and accuracy, the current version of ChatGPT may not be accurate enough for some use cases.

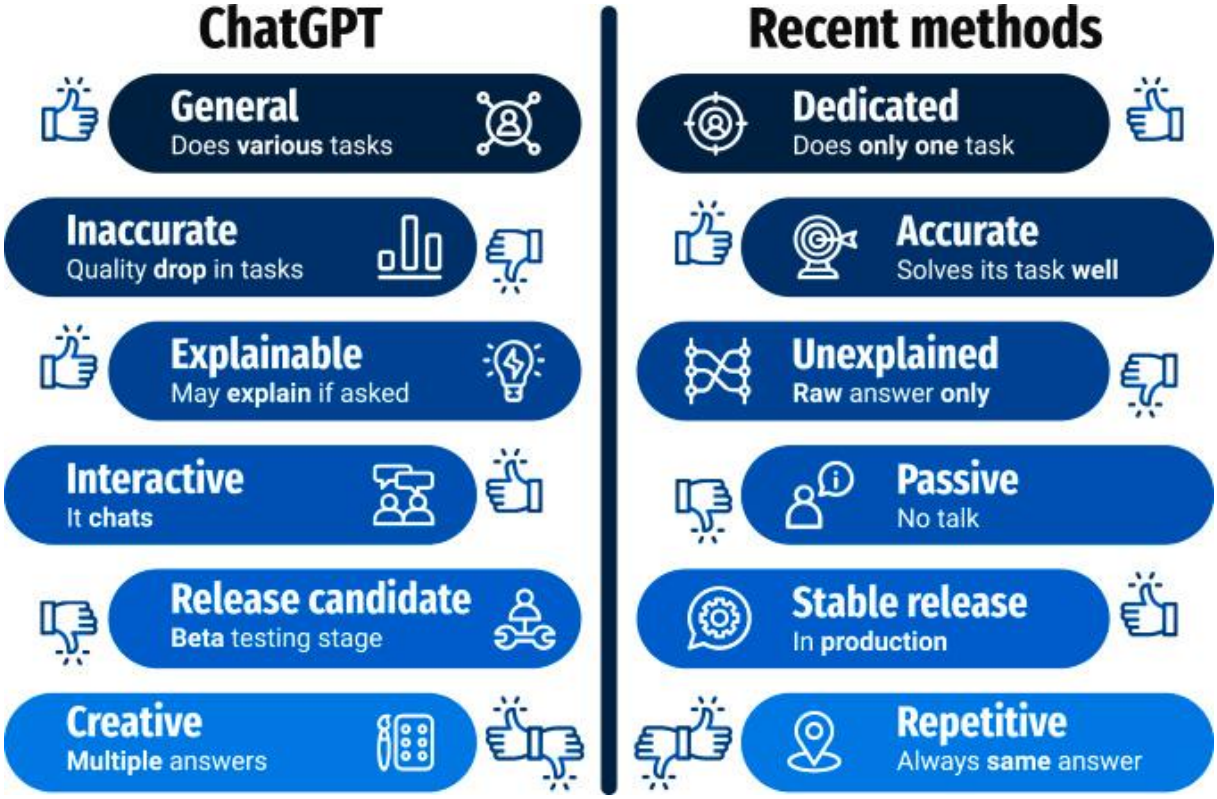

Figure 3: The difference between ChatGPT & the best recent solutions

3a. Diffusion of Innovation Theory

The Diffusion of Innovation theory provides a solid structure for comprehending the dynamics that influence the acceptance and uptake of ChatGPT within educational settings. Existing research[4] revealed that five distinct variables that are presumed to significantly affect users inclinations toward utilising ChatGPT include Relative Advantage, Compatibility, Ease of Use, Observability, and Trialability. Each of these dimensions plays a pivotal role in determining the likelihood of users embracing and integrating ChatGPT into their learning experiences.

1. **Relative Advantage:** This dimension assesses how adopting ChatGPT offers benefits compared to traditional methods or other available tools.
2. **Compatibility:** Compatibility gauges the alignment of ChatGPT with users' existing values, needs, and experiences.
3. **Ease of Use:** This aspect evaluates the simplicity and user-friendliness of ChatGPT in its application
4. **Observability:** Observability refers to the visibility of results or benefits derived from using ChatGPT, which can influence others' perceptions.
5. **Trialability:** Trialability signifies the opportunity for users to experiment with ChatGPT on a trial basis before full adoption.

Understanding the influence of Relative Advantage, Compatibility, Ease of Use, Observability, and Trialability is crucial for integrating ChatGPT effectively into educational settings, providing a comprehensive framework for its successful adoption and utilization. These dimensions collectively shape users' inclinations and pave the way for ChatGPT's seamless integration into learning experiences.

[4] Raman, R., Mandal, S., Das, P., Kaur, T., Sanjanasri, J.P. and Nedungadi, P., 2023. University students as early adopters of ChatGPT: Innovation Diffusion Study.

4. ‘GenAI & Me’ Survey

In order to find out more about how people are using GenAI tools and where they go to find out about how to use these tools, the researchers developed a short survey in November 2023 to complement the research completed as part of this report.

The survey consisted of only six questions, gathering information about participants' professions, if they use tools such as Chat GPT or Bard, what they use these tools for, and how they learn about these tools or where they go for advice.

There were 50 respondents to this survey, with respondents engaged in a number of professions, mainly being employed full-time (76%). The survey wanted to learn in particular how teachers, students and researchers use GenAI, therefore these roles were called out specifically. Five teachers and five researchers responded to the survey.

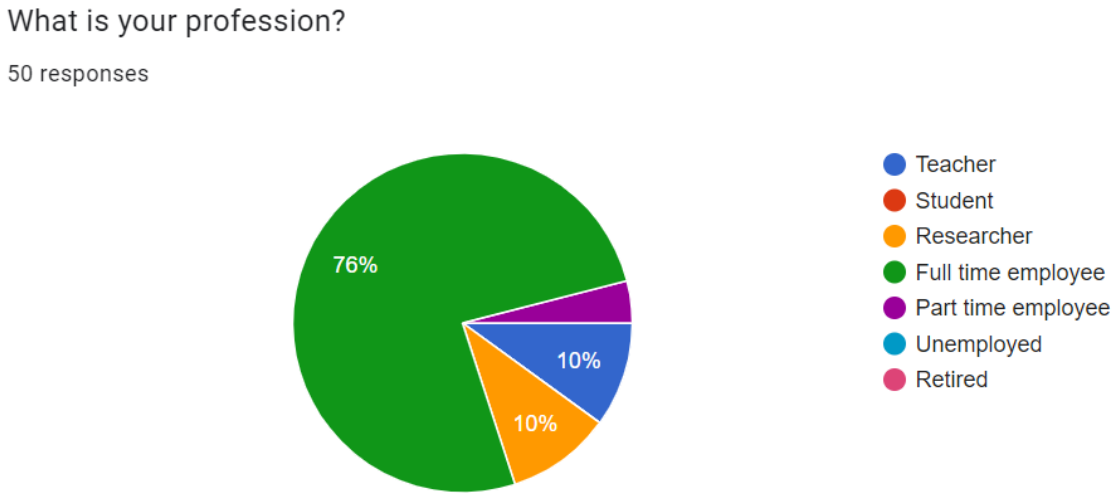

Figure 4: Professions of survey respondents

88% of respondents use GenAI tools, with most using them for work or personal use.

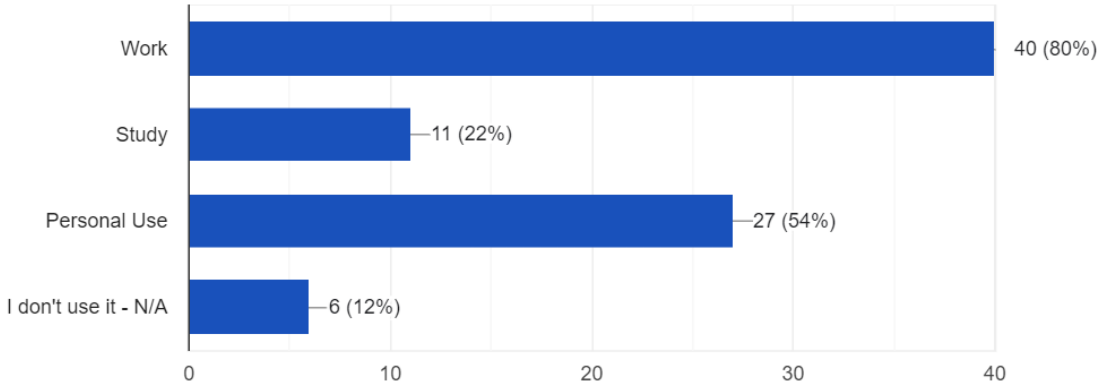

Figure 5: Use of GenAI tools

Of the teachers who responded to the survey only one stated that they do not use GenAI tools. The other four mostly used these tools for work and personal use. One researcher also responded that they do not use GenAI tools, with the remaining researchers stating that they use these tools for work, study and for personal use.

For the purposes of this research, we were interested in understanding how users find out how to use these tools and what sort of user onboarding they engage with.

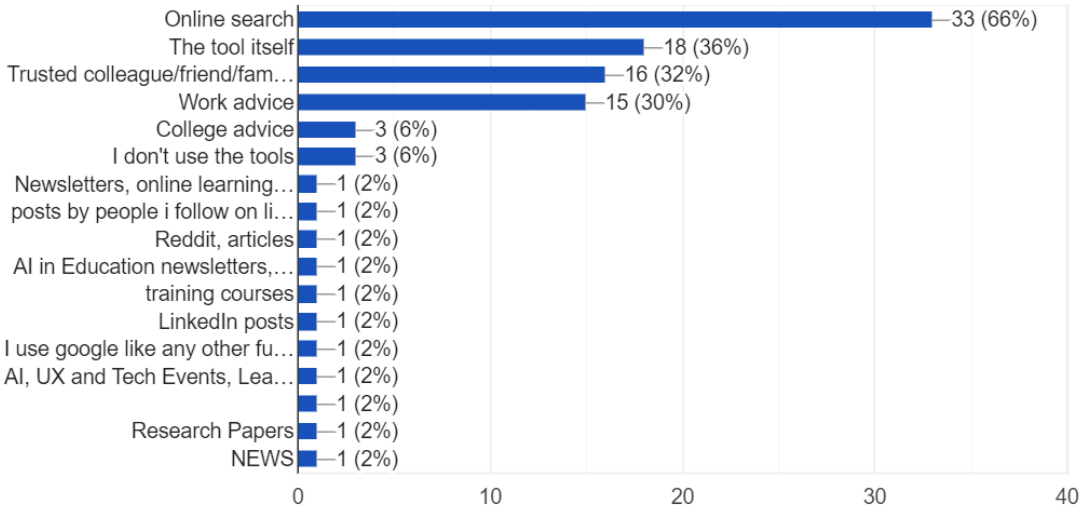

Figure 6: Learning about GenAI tools & obtaining advice

From Figure 6 it can be seen that online searches are the most popular way for people to learn how to use GenAI tools, closely followed by using the tool itself, getting advice from trusted colleagues, friends or family members, and advice from their workplace.

The teachers who responded added that they gain this information from webinars, online learning communities, influencers, research papers and through professional development at their schools.

The researchers who completed the survey added that AI, tech and UX events are useful places to learn about new tools as well as through work and the media.

From this mix of responses, it may be worth considering whether a more formal approach to onboarding for GenAI tools would be of benefit to the general public, providing valuable information from trusted sources that are easily accessible.

Currently the mix of online searches and relying on colleagues and friends may not be the best way to engage with tools such as GenAI, particularly when the experience may not be accurate or trustworthy.

Ensuring that more general events address topics such as GenAI and how to use these tools may help to point users in the right direction and help to remove some of the fear that the use of GenAI appears to be generating globally.

5. Insights on GenAI from Learnovation 2023

The Learnovation Summit was held in the Aviva Stadium, Dublin, on Thursday 05 October, with almost 450 attendees from a wide range of organisations and educational institutions. Formal Education and Corporate Learning workshops were held, inviting participants to share their thoughts and insight on the use of Artificial Intelligence (AI) in their particular contexts.

The corporate learning and formal education sessions began with pre-workshop polls, asking participants how they felt about the impact of GenAI on corporate learning and formal education.

70% responded that they are optimistic and only 27% pessimistic in the corporate learning session, with very similar results in the formal education session, with numbers at 69% and 25% respectively.

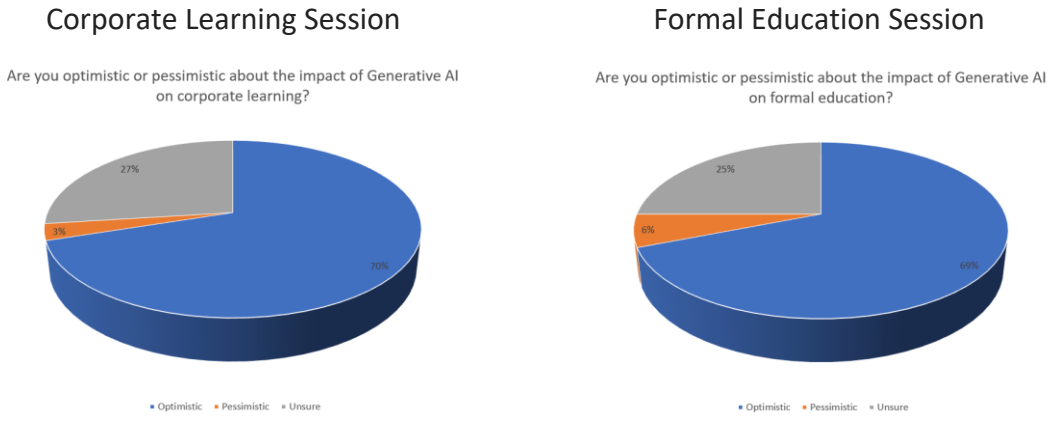

Figure 7. Pre-workshop polls: Corporate Learning & Formal Education

At the end of both sessions, the polls were shared again, with the numbers changing slightly from the pre-workshop polls.

The corporate learning workshop participants recorded 61% optimistic and 8% pessimistic, with the formal education participants recording lower numbers of 52% and 6% respectively.

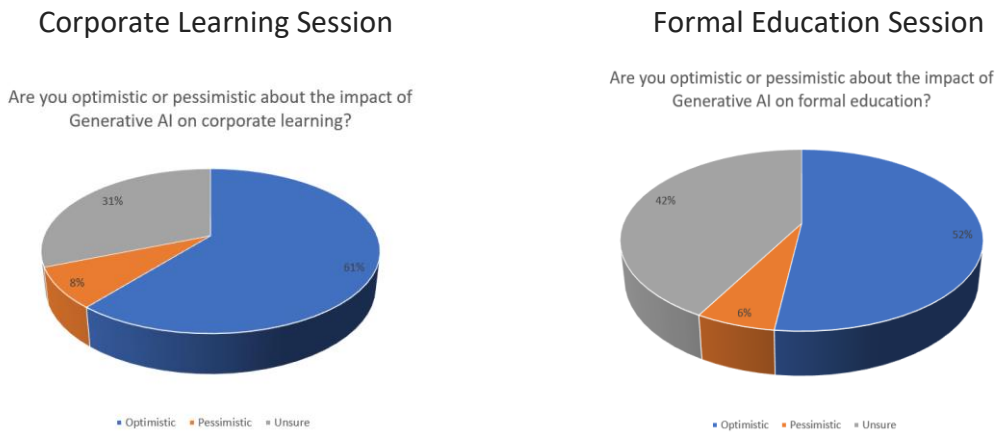

Figure 8. Post-workshop polls: Corporate Learning & Formal Education

The 'unsures' stayed roughly the same, therefore it could be inferred that the workshop provided some food for thought!

The formal education attendees were polled about how they use GenAI in an educational context, and the below word cloud was generated from these responses.

Figure 9. 'How do you use GenAI for educational purposes?' (word cloud)

Both workshops also encouraged participants to consider the future they had envisioned and whether they were happy with the futures they had imagined, including any potential risks or opportunities.

Both workshops provided mixed responses in this regard, from positivity about potential opportunities and embracing change to being more cautious and mitigating risk to the risk of isolation and the impact on privacy. The key takeaways were very much a 'wait and see' approach, with a view to seeing new technology as an opportunity while making sure that any risks or dangers associated with it are identified and dealt with as quickly as possible.

Corporate Learning Workshop

Three topics were discussed in this workshop, encouraging participants to focus on the current state (where we are now), as well as five and ten years into the future to get them to consider how AI might evolve in particular contexts.

The topics addressed were:

- '*What is our biggest hope for generative AI in corporate learning?*' (current state)
- '*What effect has GenAI had on the world of work?*' (2023 - 2028)
- *'Generative AI has had a disastrous impact on the workplace. What went wrong and what should we have done differently? What systemic influences were at play?'* (2028 - 2033)

The workshop closed with the question: Are we happy with the future we have imagined?

A number of interesting points were raised in relation to the first topic on the hope for GenAI in corporate learning such as promoting "pull learning" that is just-in-time and immediately relevant vs "push" content, improving engagement, personalising the learning experience, and improved efficiency.

The second topic initiated some discussion on what effect GenAI will have in the future on the world of work (5 years into the future) and led to responses such as:

- less repetitive tasks
- changed roles
- new opportunities
- reduced working days/weeks
- more strategic focus

However, a couple of notes were made related to ethical issues and 'a full apocalypse – Skynet style'!

The final topic discussed as part of this session took a more negative tone and addressed issues related to trust; topics such as regulation, governance, and disinformation. Job losses were also mentioned as well as an over-reliance on AI, micro-management of employees, and confusion over what is real and what is AI-generated.

Some of the key takeaways from this session related to more tailored onboarding processes, the importance of education and awareness, and the integration of feedback using GenAI tools.

Formal Education Workshop

The formal education workshop was conducted in the same vein as the corporate session, asking participants to vote on which topics they wished to discuss in their groups.

The topics addressed were:

- *'What is our biggest hope for Gen AI (for education)?*' (current state)
- '*A compelling form of learning assessment rockets to popularity thanks to Gen AI. What makes this form of assessment so unique?*' (2023 - 2028)
- *'What effects (intended, unintended) does Gen AI produce in this new world?'* (2028 - 2033)

This workshop also closed with the question: Are we happy with the future we have imagined?

The first topic for discussion was voted on and was the same as for the corporate session: '*What is our biggest hope for generative AI in formal education?*'
There was a lot of discussion on this topic, leading to a wide range of responses such as:

- inclusivity for diverse learners
- more equality & accessibility
- personalised learning
- greater innovation in education
- support & reducing workload/stress

The second topic addressed in this workshop was '*A compelling form of learning assessment rockets to popularity thanks to Gen AI. What makes this form of assessment so unique*?'
Again, there was a great deal of discussion, and a range of responses were recorded such as authentic assessment, project-based assessment, continuous assessment & tailored feedback, adaptable questions, and a lack of human bias.
The third topic chosen related to the intended or unintended effects of GenAI in our new world (2028 – 2033). While most of the responses were positive, ranging from greater equality and work/life balance to happier teachers (with teaching being a more respected and desirable profession) to more integration provision of services to learners, a couple of participants were more wary, responding to this topic with 'removal of craft; struggle to develop critical & research skills; uniformity of thought, personality and perceptions; echo-chamber, and further marginalisation'.

6. Future Use Considerations

Ensuring a seamless and excellent user experience is important for all user types, regardless of their technical proficiency. Equally important is for users to carefully weigh the advantages and limitations of present GenAI tools like ChatGPT. To wrap up this report, we will delve into these considerations as suggested by current research[5].

1. **Consistency and precision:** ChatGPT is really good at writing in a way that sounds like a person, which is pretty impressive! But sometimes, it can make mistakes or give wrong information, although this doesn't happen often. When we're talking about important stuff like scientific facts, it's super important that the info from AI is accurate all the time. That's because people need to trust that what they're reading or learning from AI is right. So, making sure the AI gets things exactly right is really crucial for keeping that trust in the information it gives us.

2. **AI-generated unfairness:** ChatGPT learns from lots of text, but sometimes that text might have mistakes or biases. So, when ChatGPT uses that info, it could unknowingly pass on those issues, which might impact future research

3. **Misplaced faith in AI:** Relying too much on advanced AI like ChatGPT might reduce researchers' ability to think and solve problems on their own.

4. **Quality assurance:** ChatGPT is really good at making language that sounds great, but sometimes it can give not-so-good or inappropriate replies. To make sure it keeps making awesome content, we need to always watch, learn, and help it get better.

5. **Bias in the data:** The kind of data ChatGPT learns from can affect its results. If it learns from biased or limited data, it might make mistakes, especially in important

[5] Gill, S.S. and Kaur, R., 2023. ChatGPT: Vision and challenges. Internet of Things and Cyber-Physical Systems, 3, pp.262-271.

areas like medicine, law, and jobs, causing some negative effects in predictions and decisions.

6. **Generalizability:** ChatGPT often gets things wrong and struggles with new information because it learns from really huge datasets. To make it better at understanding new stuff, we need to find new ways to train it that help it learn more broadly.

7. **Explainability:** Understanding ChatGPT is tough because it's a complicated model. This makes it hard to figure out how it makes decisions and find any problems it might have built in.

8. **Power utilisation:** ChatGPT models use a ton of computer power because they hold so much information, which can be bad for the environment. We need to find ways to make ChatGPT use less power while still working well.

9. **Immediate feedback:** ChatGPT can create text quickly, but sometimes it takes a bit to reply. Users would really like a faster and more flexible ChatGPT to get quicker responses.

10. **Security issues:** ChatGPT can sometimes create harmful content like intolerance or false information. It's super important to create protections to prevent ChatGPT from making this kind of stuff.

Of course, it is impossible for the average user of GenAI tools to consider all of the above points when exploring the use of new tools, especially for informal use. For many, the benefit of GenAI will be in how it can help make their job/life easier. The barrier for some users will be figuring out how exactly they can use the tools effectively and not just as a gimmick. As the user experience of these tools improvise, they could prove to be as ubiquitous and addictive as social media tools, and people may completely overlook the

potentially negative impact. Therefore, it is important that due consideration is given to the points above, whether you are simply using GenAI to come up with funny poems or using it to power your business or study.