Afrikan Artificial Intelligence (AI) Prompt Engineering

Editor: D Chetty
Authors: R Wright & D Harpestad

Tech-Ready Africa Open Knowledge Series

Academic Development Open Virtual Hub

UNISA

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UNISA

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About the Academic Development Open Virtual Hub

The Academic Development Open Virtual Hub (ADOVH) is a strategic unit in the Department of Tuition Support and Facilitation of Learning at the University of South Africa that leverages technology to enhance teaching, learning and student support. Based in Pretoria, South Africa, ADOVH has actively engaged with students, educators and the community through various initiatives. ADOVH is funded through the Department of Higher Education and Training (DHET) University Capacity Development Programme (UCDP).

Some of the activities ADOVH has been involved in include:

- *Empowering Educators:* ADOVH, in partnership with Microsoft, has been training educators on Fourth Industrial Revolution (4IR) skills, aiming to bridge the digital gap in education. This initiative has seen participation from educators across the country.
- *Student Training:* ADOVH has also immersed UNISA students in virtual reality experiences and metaverse training to enhance their digital literacy. ADOVH provides capacity development to students from basic digital literacy to advanced artificial intelligence competencies.
- *Community Engagement:* ADOVH participates in events like Comic-Con Africa and other educational expos, showcasing innovative technologies like humanoid robots and virtual reality experiences.
- *Research and Development:* ADOVH hosts workshops and seminars to discuss AI in education, its impact on inequality and how it can be harnessed to improve teaching practices.
- *Incubator for Digital Innovation and Transformation*: ADOVH has established a fully automated recording

studio to assist academics and support staff in producing videos on demand. It has established an advanced gaming lab to explore gaming innovations and streaming from the lab. In collaboration with the Portfolio: Information and Communication Technologies, ADOVH procured and deployed UNISA's first semi-humanoid robot to assist students with technology-human interactions. In addition, ADOVH has its open learning management system underpinned by Moodle that is used primarily for students' training.

ADOVH's work is crucial in positioning UNISA at the forefront of digital education innovation. ADOVH's approach aligns with Africa's Agenda 2063 and the UN's Sustainable Development Goals, emphasising inclusive quality education and lifelong learning.

For more information on ADOVH's initiatives, visit the University of South Africa's website or contact ADOVH directly. Email: ADOVH@unisa.ac.za.

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Foreword

We are standing at a defining moment in history, an era where Artificial Intelligence (AI) is not just influencing change but driving it. Across industries, education systems, and communities, AI is rapidly reshaping how we think, learn, work, and create. It is no longer optional to thrive in this evolving landscape; we must develop new digital competencies that align with the demands of the Fourth and emerging Fifth Industrial Revolutions.

This resource, *Afrikan Artificial Intelligence (AI) Prompt Engineering*, is designed as a strategic guide to empower learners with the critical AI skills that are now indispensable. It is a call to discover, nurture, and sharpen capabilities that will determine advancement in this new age. Skills such as prompt engineering, critical evaluation of AI outputs, ethical AI use, creativity in AI engagement, and digital resilience are no longer future skills; they are today's survival skills.

Prompt engineering is the ability to craft clear, effective instructions for AI, which stands at the forefront of this new literacy. Those who master it will be better positioned to unlock the potential of large language models and generative AI tools, transforming them into powerful allies for research, creativity, and problem-solving. But technical skills alone are not enough. This era demands critical thinking to question AI-generated content, and to use AI responsibly, contextual sensitivity to recognise biases, and adaptability to engage with AI across multiple platforms and domains.

The African continent, rich in innovation and resilience, must not be a bystander in the AI revolution. We must lead, define, and transform, infusing African values, language, knowledge systems, and aspirations into the global digital narrative. This

resource answers that call, aligning with Africa's Agenda 2063 and the Sustainable Development Goals by equipping learners with the means to bridge digital divides and accelerate socio-economic growth.

To the learner holding this resource, the skills you discover here are your gateway to new opportunities, new ways of thinking, and new leadership roles in an AI-driven world. Master them with courage, curiosity, and a commitment to ethical innovation. AI is not the future. It is the present. And the skills you develop today will define your tomorrow.

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Contents

	About the Academic Development Open Virtual Hub	3
	Foreword	5
	Contents	7
	Editorial	11
	Glossary of Key Terms	13
	Resource Instructions	15
1	Introduction to Artificial Intelligence (AI)	17
	1.1 Overview	17
	1.2 Syllabus	18
	1.3 Specific Learning Outcomes	18
	1.4 Duration	19
	1.5 Delivery Method	19
	1.6 Activities Requirements	19
	1.7 Icebreaker Activity: Meet Lwazi and Introduce Yourself	20
	1.8 Pre-Course Assessment Survey	21
2	What is Generative AI, and How is it Used in Education?	23
	2.1 Introduction	23
	2.2 Learning Outcomes	23
	2.3 Key Questions	24
	2.4 Key Concepts	24
	2.5 A Brief History of AI	25
	2.6 Activity: Exploring Read Aloud	26
	2.7 What is Generative AI?	29
	2.8 The Role of Generative AI in Education	30
	2.9 Types of Generative AI	31
	2.10 Activity: Create a Song	32

2.11 Activity: Chat with Lwazi, Explore Google Gemini and Microsoft Copilot 36
2.12 Prompt Differences in Different Settings 38
2.13 Conclusion 40
2.14 Further Reading 40

3 Responsible Considerations in AI Use for Academic Purposes and Evaluating AI-Generated Data 41
3.1 Introduction 41
3.2 Learning Outcomes 41
3.3 Key Questions 42
3.4 Key Concepts 42
3.5 What is the Responsible Use of AI in Education? 44
3.6 Strategies for Using AI as a Supportive Tool 45
3.7 Activity: When to Use AI Tools 46
3.8 Assessing the Credibility of AI-Generated Information 48
3.9 Interpreting and Evaluating AI-Generated Data 49
3.10 Activity: Evaluating AI-Generated Data 51
3.11 Conclusion 52
3.12 Further Reading 53

4 Prompt Engineering: Understanding and Writing Effective Prompts 55
4.1 Introduction 55
4.2 Learning Outcomes 56
4.3 Key Questions 56
4.4 Key Concepts 56
4.5 What is Prompt Engineering? 58
4.6 Importance of Prompt Engineering 58
4.7 The Role of Prompts in AI Systems 59
4.8 Developing Skills in Writing Effective AI Prompts 61
4.9 Prompting the AI to Take on a Particular Role 66
4.10 Prompt Techniques 67
4.11 Using Voice Prompts and Audio Replies 70

4.12 Adding Documents and Images to Provide More Context 71
4.13 Activity: Prompt Engineering 73
4.14 Conclusion 74
4.15 Further Reading 74

5 Conclusion and Next Steps 77
5.1 Introduction 77
5.2 Learning Outcomes 77
5.3 Key Insights from this Resource 78
5.4 Reflection Activity 79
5.5 Post-Course Assessment Survey 79
5.6 Final Assessment Quiz 79
5.7 Next Steps 79
5.8 Course Feedback 80
5.9 Final Thoughts 80

6 Artificial Intelligence (AI) Integration in Teaching and Learning Checklist 81
6.1 Foundational Preparation 81
6.2 Tools and Access Readiness 81
6.3 Responsible and Ethical Use 81
6.4 Skill Development 81
6.5 Practical Integration into Learning 82
Ethical Decision-Making and Scenario Planning 82
Monitoring and Reflective Practices 82
Continuous Learning and Improvement 82

7 Additional Self-Directed Learning Activities 85
7.1 AI Exploration Journal 85
7.2 Ethical AI Case Study Analysis 85
7.3 Role-Based Prompting Practice 86
7.4 Multimodal AI Challenge 86
7.5 Prompt Engineering for Language Learning 87

7.6 Creativity Session: Content Generation 87
7.7 Bias Detection Exercise 87
7.8 Personalised Study Aid Creation 88
7.9 AI Tool Comparison 88
7.10 Future of AI: Reflection and Goal Setting 89

8 isiZulu Comic Strip on Student Digital Resilience 91

9 Tshivenda Comic Strip on Student Digital Resilience 93

10 English Comic Strip on Student Digital Resilience 95

11 Index 97

Editorial

Over the past two decades, technology has increasingly shaped how we live, learn, and connect. The role of artificial intelligence (AI) has never been more critical, particularly within education, striving to meet the demands of the 21st century. This African Artificial Intelligence (AI) Prompt Engineering resource was developed with a clear and compelling vision to equip students with foundational, practical, and ethical competencies to thrive in the age of Generative AI.

Through this resource, we seek to embrace a future in which African students are not passive consumers of AI but active, responsible participants in shaping it (thereby challenging the knowledge hegemony of the Global North over the Global South). With no prior technical background required, students are guided step-by-step through understanding how AI works, how to write effective prompts, and how to engage with AI-generated information critically. This resource empowers students to integrate AI meaningfully into their educational journeys by emphasising hands-on learning, contextual relevance, and ethical reflection.

This initiative is deeply rooted in Sustainable Development Goal 4 (Quality Education) principles and Africa's Agenda 2063, especially Goal 2: "Well Educated Citizens and Skills Revolution Underpinned by Science, Technology and Innovation." It recognises the transformative potential of AI to bridge divides (i.e., technological, linguistic, and pedagogical) when leveraged strategically.

Students are encouraged to learn about and with AI through interactive activities, practical assignments, and guided exploration of tools like Google Gemini, Microsoft Copilot, and UNISA's AI assistant Lwazi. The resource carefully balances

enthusiasm for AI's possibilities with a sober awareness of its limitations, biases, and ethical considerations.

In many ways, this resource is a blueprint for African digital resilience. It nurtures the curiosity, adaptability, and critical thinking skills needed to navigate the evolving digital terrain. Whether used as an introduction to AI or a springboard for further exploration, it represents a powerful resource in our collective effort to democratise digital innovation across the continent.

While this resource is explicitly designed for UNISA, we invite others to journey through this material openly and intentionally, knowing that the skills developed here will shape the future of learning, leadership, and local innovation.

Note: Selective texts in this resource have been refined using AI to make the language simple and accessible to the user as a foundational skills intervention.

Denzil Chetty
Series Editor: Tech-Ready Africa Open Knowledge Series
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Pretoria, South Africa

Glossary of Key Terms

Generative AI	A type of artificial intelligence that can create new content such as text, images, music, or code by learning patterns from large datasets, rather than just analysing or predicting based on existing data.
Prompt Engineering	The process of crafting clear, specific instructions or questions that guide AI tools to generate meaningful, relevant, and accurate responses.
Large Language Models (LLMs)	Powerful AI models trained on massive amounts of text data can generate human-like text, engage in conversation, summarise information, and assist with complex writing tasks (e.g., GPT-4).
Academic Integrity in AI Use	The ethical practice of using AI tools to support learning without compromising originality, honesty, or misrepresenting AI-generated work as one's own.
Bias in AI	The presence of unfair or prejudiced outcomes in AI-generated content due to biased training data, algorithms, or societal assumptions can affect accuracy and inclusivity.
Responsible AI Use	Engaging with AI technologies ethically and thoughtfully, ensuring that personal data is protected, bias is recognised, and AI tools are used to enhance, rather than replace, human critical thinking.
Context in Prompting	The background information, setting, or specific details in a prompt help AI generate more precise, targeted, and meaningful responses.

Role-Based Prompts	A prompting strategy where AI is instructed to respond from a specific perspective or persona, such as a teacher, counsellor, or editor, to tailor responses to the user's needs.
Critical Evaluation of AI-Generated Content	The skill of assessing AI outputs for credibility, accuracy, relevance, and bias by cross-referencing with reliable sources and applying independent judgment.
Deep Learning	An advanced subset of machine learning involving multiple layers of neural networks that allow AI systems to recognise complex patterns and generate sophisticated outputs like text, images, and speech.
Transformer Models	A type of deep learning model architecture specifically designed for handling sequences, such as language tasks; examples include models like GPT (Generative Pre-trained Transformer) that generate coherent and contextually accurate text.
Data Privacy in AI	The practice of protecting personal and sensitive information when using AI tools, ensuring that user data is not misused, exposed, or shared without consent.
Iterative Refinement	The continuous process of adjusting and improving AI prompts based on previous AI responses allows users to obtain more accurate, relevant, and tailored outputs.
Multimodal Inputs	Using multiple input types, such as text, voice, documents, or images, to interact with AI systems enhances the richness and depth of AI-generated responses.

Resource Instructions

Welcome to this *Afrikan Artificial Intelligence (AI) Prompt Engineering* resource. We are excited to have you here as we embark on this journey into the fascinating world of AI. This resource is explicitly designed for you, a learner in an Open Distance e-Learning (ODeL) institution, with no prior technical experience required. By the end of this resource, you'll have a solid understanding of artificial intelligence, particularly Generative AI and Large Language Models (LLMs) and how it can be used in education. You will also develop the skills to write effective AI prompts, an essential skill for interacting with AI tools. The main aim of this intervention is to enhance your competencies to strategically engage with AI in optimising your learning journey.

Throughout this resource, we will be guiding you through concepts that may be new and sometimes challenging. But don't worry; we created the lessons to be clear, simple, and practical, ensuring you build confidence at every step. You'll learn what AI is, how to use it responsibly in an academic context, and how to evaluate the results AI provides. Together, we'll explore the impact of AI on education and how you can harness its power to enhance your learning.

Whether you're entirely new to AI or are curious about it, this resource will give you the skills and insights to engage with AI meaningfully. Remember, this journey is not just about understanding technology; it's about learning how to apply it in ways that matter to you.

We also encourage you to use this resource with the online Masterclass *Artificial Intelligence (AI) Prompt Engineering,* which can be accessed via the *myStudentSkillsHub*: https://adovh.unisa.ac.za/. There are no costs to the course.

1 - Introduction to Artificial Intelligence (AI)

1.1 OVERVIEW

This resource is designed to empower you with the foundational knowledge and skills you need to interact effectively with *Generatively AI Large Language Models (LLMs).* Our primary goal is to help you understand Generative AI and learn the essentials of creating effective prompts, allowing you to engage meaningfully with AI in your learning journey.

We aim to equip you with the skills to harness AI as a tool for educational purposes, focusing on practical applications and responsible considerations in AI use. By the end of this resource, you will be able to confidently navigate AI LLM tools, understand their capabilities, and use them to enhance your academic work and daily life.

1.2 SYLLABUS

Here is a quick overview of the content covered in this resource:

- 📘 Getting Started
  Get introduced to the goals, the syllabus, and our AI assistant, Lwazi.
- 🤖 What is Generative AI and Its Use in Education
  Learn about the basics of Generative AI, how it works, and how it can enhance your educational journey in Unit 1.
- 🛡️ Responsible Considerations in AI Use for Academic Purposes and Evaluating AI-Generated Data
  Understand the aspects of using AI responsibly and how to assess AI-generated information in Unit 2 critically.
- ✍️ Prompt Engineering: Understanding and Writing Effective AI Prompts
  Develop skills in creating clear, effective prompts that allow you to interact effectively with AI in Unit 3.
- 🔎 Conclusion and Next Steps
  Reflect on the learning journey and identify ways to apply your newfound skills.

1.3 SPECIFIC LEARNING OUTCOMES

By the end of this resource, you will be able to:

- Define Generative AI and understand its key features.
- Identify and use popular Generative AI tools effectively in your studies.
- Apply responsible considerations when using AI for academic purposes.
- Create effective AI prompts to generate relevant and meaningful content.

- Evaluate AI-generated data for credibility, accuracy, and bias.
- Use AI to support personalised and enhanced learning experiences.

1.4 DURATION

The resource is designed to be completed over 8 hours, each 2 hours focusing on a different unit.

1.5 DELIVERY METHOD

As mentioned, this resource will be used with the online Masterclass *Artificial Intelligence (AI) Prompt Engineering,* accessed via the *myStudentSkillsHub*: https://adovh.unisa.ac.za/. Many of the activity links noted here are accessible through the online Masterclass.

1.6 ACTIVITIES REQUIREMENTS

Throughout this masterclass, you will engage in several activities to enhance your understanding and application of the concepts taught. To get the most out of these activities, you will need:

- 💻 Access to an internet-enabled device (laptop, desktop, or tablet) for interacting with AI tools.
- 🌐 Microsoft Edge browser, which we will use for some of the activities involving immersive tools.
- 💬 Access the course discussion forums, where you will share reflections and interact with your peers.
- 🔑 Have a Microsoft and Google account to access the open generative AI tools.

1.7 ICEBREAKER ACTIVITY: MEET LWAZI AND INTRODUCE YOURSELF

To help you get comfortable and to start building a sense of community, we have an engaging icebreaker activity for you. Meet Lwazi, our AI chatbot, who will help us throughout the course!

Complete the activity at: Activity: Icebreaker | myStudentSkillsHub

Objective

This activity aims to familiarise you with Lwazi, the AI chatbot available to assist you, and introduce you to your peers in the discussion forum.

Activity Instructions

- *Chat with Lwazi:* Use the online embedded Lwazi chatbot. Tell Lwazi your name, where you're from, and one thing you're excited to learn in this course.
- *Share your response:* In the forum, copy and paste the response you have received from Lwazi.
- *Respond to a Peer:* Read at least two of your peers' responses and reply to their posts. Share what your response received has in common or what you found interesting.

Reflection and Takeaway

Reflect on your experience interacting with Lwazi. How did it help you? How do you think it could assist you during the course?

Outcome

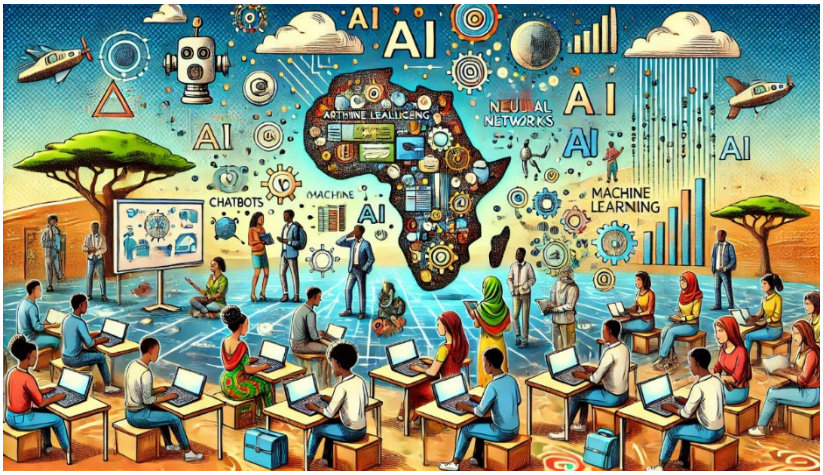
By completing this activity, you'll become comfortable using AI tools like Lwazi, get to know some of your peers, and build connections to support your learning throughout the course.

1.8 PRE-COURSE ASSESSMENT SURVEY

Please complete a quiz to check your knowledge before starting this course. This will give you an indication of everything new you have learned.

Complete the activity at:
https://adovh.unisa.ac.za/login/index.php?loginredirect=1.

2 – What is Generative AI, and How is It Used in Education?



2.1 INTRODUCTION

In this unit, we will explore Generative AI, a rapidly evolving field reshaping how we learn, communicate, and create. By the end of this unit, you will understand what Generative AI is, how it works, and how it can be leveraged effectively in education. The knowledge you gain here will form the foundation for understanding AI tools and how to use them responsibly throughout your learning journey.

2.2 LEARNING OUTCOMES

By the end of this unit, you will be able to:

- Define Generative AI and understand its key features.
- Explain how Generative AI works and describe its different models.

- Identify popular Generative AI tools and their applications in education.
- Understand the benefits and limitations of Generative AI in educational contexts.
- Apply Generative AI tools to enhance your learning experience.

2.3 KEY QUESTIONS

By the end of this unit, you should be able to answer the following:

- What is Generative AI, and how does it differ from traditional AI?
- How does Generative AI work, and what are the main types of Generative AI models?
- What are the popular Generative AI tools available today?
- How can Generative AI be used responsibly in education?
- What are the potential benefits and challenges of using Generative AI for learning?

2.4 KEY CONCEPTS

- Generative AI: A type of AI that creates new content, like text, images, music, or videos. Unlike traditional AI, which analyses data or makes predictions based on existing information, Generative AI can produce original material based on what it has learned from large data sets. Examples include writing essays or generating artwork.
- Neural Networks: Algorithms modelled after the human brain, allowing AI to recognise patterns and learn from data. These networks are essential for AI to recognise images, process language, or create content.
- Deep Learning: A more advanced form of machine learning that uses layers of neural networks to process large

amounts of data. Deep learning enables AI to understand complex patterns, making it possible to generate text, images, or other content that feels natural or realistic.

- Transformer Models: A specific type of AI model designed to process and generate human-like text, such as GPT (Generative Pre-trained Transformer). Transformer models are highly effective for language tasks like answering questions, writing essays, or generating stories.
- Generative Adversarial Networks (GANs): AI models that use two parts—a generator and a discriminator—that work together to create realistic content. GANs can generate images, videos, or even music by having the generator create content while the discriminator evaluates its quality.
- Large Language Models (LLMs): Powerful AI models trained on massive amounts of text data, such as GPT-4, can generate text that mimics human conversation or writing. LLMs are used in chatbots and virtual assistants to answer questions or draft essays.
- Machine Learning: A branch of AI where machines learn from data without being explicitly programmed for every task. Machine learning algorithms identify patterns in data and use them to make decisions or predictions. For example, tools like Grammarly or Google Assistant use machine learning to improve over time, based on the information they process.

2.5 A BRIEF HISTORY OF AI

Artificial Intelligence has been around longer than you might think. The idea of creating intelligent machines dates to ancient myths, but the modern development of AI began in the 1950s. Early pioneers like Alan Turing and John McCarthy laid the groundwork

for what AI would eventually become. AI has come a long way, from basic programs that could play chess to advanced systems that understand language, generate art, and assist in education.

Over the decades, AI development has progressed through many stages, from rule-based systems to machine learning and now to Generative AI. Generative AI represents one of the most exciting advancements, where AI can generate text, images, music, and even code. Let's dive deeper into what Generative AI is and why it's important.

Read the fascinating story that made a breakthrough for AI, of how Google's AI beat humans in the game of Go at https://www.smithsonianmag.com/innovation/googles-new-ai-can-beat-human-champions-game-go-180957948/.

2.6 ACTIVITY EXPLORING READ ALOUD

You most likely used some type of machine learning application in the past, such as Siri, Google Assistant, Grammarly, Google Translate, etc. Let's explore an application that is made possible by machine learning.

Complete this activity at: Activity: Exploring Microsoft Immersive Reader | myStudentSkillsHub

Objective

The objective of this activity is to help you understand how machine learning tools can be used to enhance accessibility and learning by exploring Microsoft Immersive Reader.

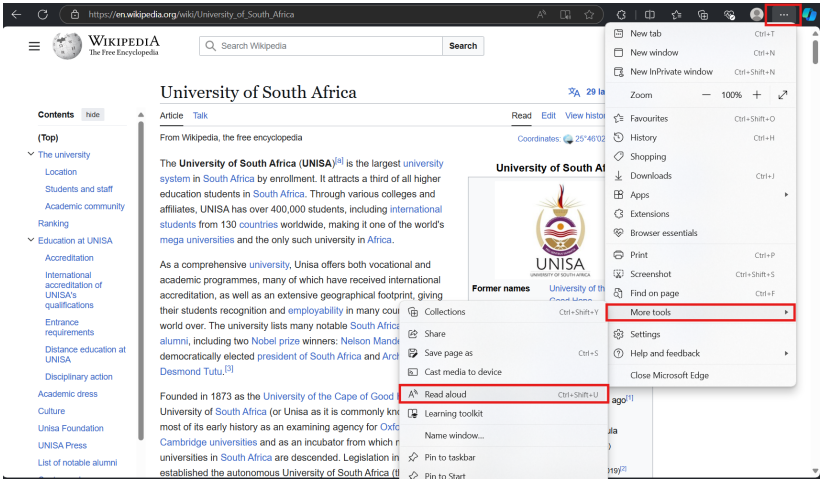
Activity Instructions

- Open Microsoft Edge:
    - If you do not have the Microsoft Edge browser installed on your device, download it from https://www.microsoft.com/en-us/edge/download.

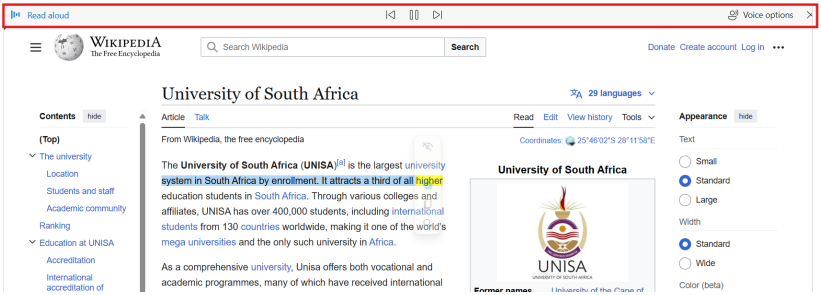
- Open Microsoft Edge once it is installed.

- **Access the Wikipedia Article**:
  - Visit the following Wikipedia article about Unisa: https://en.wikipedia.org/wiki/University_of_South_Africa.

- **Enable Read Aloud**:
  - Click on the Settings dropdown menu (three dots at the browser's top-right corner).
- Select “More tools”, then click “Read aloud” per the image below.



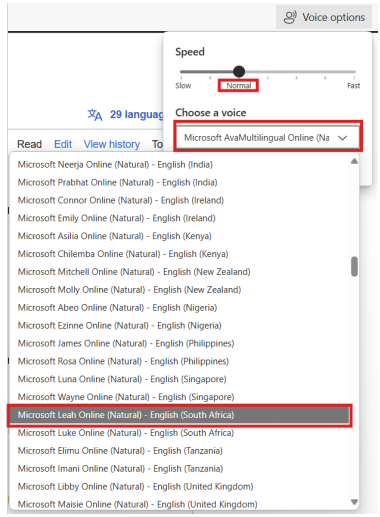
This will open the Read Aloud bar at the top and start reading the content on the page.



Adjust Settings:

- Click the “pause” button to stop the reading.
- Click on “Voice options” and do the following:
    - Set the “Speed” to normal.

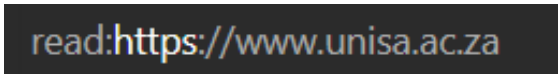
From the “Choose a voice” dropdown menu, select “Microsoft Leah Online (Natural) – English (South Africa)”.



Press the play button to resume playback.

Hint:

To use the Immersive Reader mode for any page, add “read:” before the website’s address in the address bar.



Reflection and Take Away

- Discuss other machine learning tools you have used, such as Siri, Google Assistant, or Grammarly, and how they have impacted your learning.

Conclusion

Microsoft Read Aloud is an excellent example of how machine learning can be used to make information more accessible. By adjusting reading settings and providing voice options, this tool can help enhance comprehension and accessibility. Reflect on how tools like these can play a role in your learning journey and share your experiences with your peers in the forum.

2.7 WHAT IS GENERATIVE AI?

Generative AI is artificial intelligence that can create new content, such as text, images, music, and more. Unlike traditional AI, which focuses on recognising patterns or making predictions based on existing data, Generative AI can produce original content that did not exist before. Imagine an AI that can write a poem, create a realistic image, or even draft an essay for you; that’s Generative AI in action.

This kind of AI works by learning from a massive amount of data and understanding the patterns within that data. For example, a Generative AI model trained on thousands of essays can learn the structure, tone, and style of good writing, allowing it to generate its essays based on your input.

How Does Generative AI Work?

Generative AI uses complex algorithms known as neural networks, specifically deep learning. Deep learning allows AI to simulate the way the human brain processes information. One popular approach involves using Generative Adversarial Networks (GANs) or Transformer models. GANs consist of two parts—a generator and a discriminator—that work together to create content that becomes increasingly realistic. Transformer models, like GPT (Generative Pre-trained Transformer), are another primary type of Generative AI that excels at understanding and generating human language.

At its core, Generative AI learns by analysing a lot of examples. It understands the structure and relationships within the data, and then uses that knowledge to create something new. While it doesn't truly "understand" the content like humans do, it can mimic patterns in a way that feels very natural.

2.8 THE ROLE OF GENERATIVE AI IN EDUCATION

Generative AI has the potential to transform the way you learn. Imagine an AI that can help you brainstorm ideas for an assignment, generate study notes, or act as a virtual tutor. Generative AI can personalise your learning experience, providing explanations tailored to your needs and at your own pace.

Here are some examples of how Generative AI can be used in education:

- *Personalised Learning:* AI can create content specifically designed for your learning level and interests, helping you better understand complex subjects.
- *Content Creation:* You can create content, such as images and text, to assist you in your understanding.
- *Instant Feedback:* AI can provide instant feedback on your writing or problem-solving attempts, helping you learn from your mistakes in real time.

However, it is essential to use Generative AI responsibly, especially regarding academic integrity. AI tools should be used to enhance your understanding, not to replace your work or effort.

Understanding AI-Generated Information

AI-generated information can be compelling, but it is crucial to remember that AI doesn't "know" things like humans do. It generates content based on patterns and data it has been trained on, which can sometimes produce inaccurate or biased information. Cross-checking any AI-generated content with reliable sources and using your critical thinking skills to evaluate its quality and accuracy is always a good idea.

We will explore inaccurate or biased information in Unit 03.

2.9 TYPES OF GENERATIVE AI

Generative AI comes in different forms, each with its own strengths:

- *Text Generators:* These tools, like OpenAI's ChatGPT, generate written content and can be used to draft essays, answer questions, or explain concepts. Read more about ChatGPT at https://openai.com/index/chatgpt/

- *Image Generators:* Models like OpenAI's DALL-E or Midjourney create images based on text prompts, which help develop visual aids for projects or presentations. Read more about DALL-E at https://openai.com/index/dall-e-2/
- *Music and Art Generators:* Some AI tools are designed to create music or visual art, offering creative inspiration or helping with art projects. Create a song with Suno at https://suno.com/

Recognising differences between AI models

Not all AI models are the same. Some are better suited for generating text, while others are designed for visuals or sound. Understanding the different types of AI models helps you choose the right tool for your needs. For example, if you need help with writing, a language model like GPT-4 would be best. If you need visuals for a presentation, then an image-generating model like DALL-E or Midjourney would be more appropriate.

Each model has its strengths, limitations, and unique features. Knowing these differences will help you get the most out of AI tools and use them effectively to support your learning.

2.10 ACTIVITY: CREATE A SONG

Let's see how creative Generative AI can be by creating a song.

Complete this activity at: Activity: Create a Song | myStudentSkillsHub

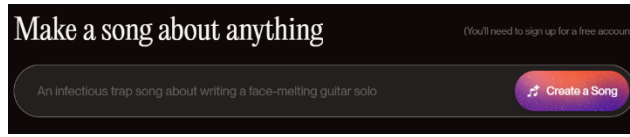
Objective

This activity aims to help you explore the creative capabilities of Generative AI by using an AI tool to generate your own song. This

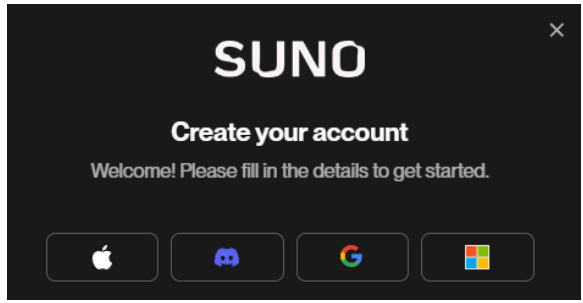
will enhance your understanding of how AI can produce original content based on your inputs.

Activity Instructions

- Visit Suno AI:
    - Go to https://suno.com/.
- Create Your Song:
    - Locate the **"Make a song about anything"** bar.

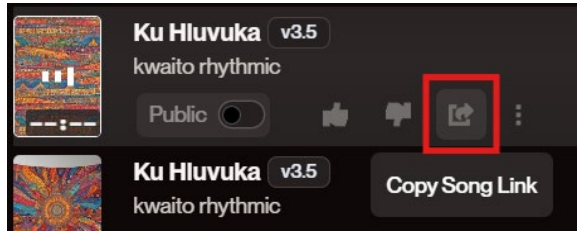


    - **Choose a Theme:** Think of a topic or emotion you'd like your song to convey, such as joy, adventure, or a personal experience.
    - **Select a Genre:** Pick a music style you prefer, like pop, jazz, or hip-hop.
    - **Enter Your Prompt:** Briefly describe your song idea in the input field.
      For example, *fA.joyful.song.about.exploring.the.landscapes.of.South.Africa.in.the.genre.of.Kwaito.in.the.language.of.Tsonga‹¡*
    - **Generate the Song:** Click the **"Create a song"** button to let the AI compose your song.
    - **Create your Account:** Sign in with one of the options provided per the image below.



- Listen and Save:
    - **Play the Song:** Once generated, listen to your AI-created masterpiece as per the image below.

    - **Share your song:** Click "Copy Song Link" per the image below and paste the link in the forum below.



Here is the one generated with the example prompt: https://suno.com/song/412a5fd0-a456-4a95-9de4-e66a737d1ec6

Reflection and Take Away

- Assess the Outcome:
    - Did the song capture the theme and emotion you intended?
    - How did the AI's interpretation align with your expectations?
- Consider the Experience:
    - Were you surprised by the AI's ability to create music?
    - What does this suggest about the potential of AI in creative fields?
- Application in Learning:
    - How might AI-generated music enhance your studies or presentations?
    - Can you envision using such tools for future projects or assignments?

Outcomes

By completing this activity, you will:

- Gain hands-on experience with a Generative AI tool in music.
- Understand the process of guiding AI to produce content based on specific inputs.
- Reflect on the role of AI in creativity and how it can be integrated into your educational journey.

2.11 ACTIVITY: CHAT WITH LWAZI, EXPLORE GOOGLE GEMINI, AND MICROSOFT COPILOT

In this resource, you will be introduced to three generative AI models to help you learn how to use them effectively:

- *Gemini by Google:* An advanced AI tool designed to assist with content generation and enhance user productivity by integrating LLM capabilities. Try it: Google Gemini
- *Microsoft Copilot:* A generative AI that integrates into Microsoft 365 and other platforms, helping in writing, analysing data, and creating presentations. It's a powerful tool for students and educators to streamline productivity. Try it: Microsoft Copilot
- *Lwazi at Unisa:* Unisa's AI assistant, *Lwazi,* is available on the ADOVH Learning Management System (LMS) to help you navigate your studies, develop digital skills, and prepare for exams. Lwazi provides personalised support, making it an invaluable resource for enhancing your learning experience.

Let's get a hands-on experience using Generative AI LLM tools.

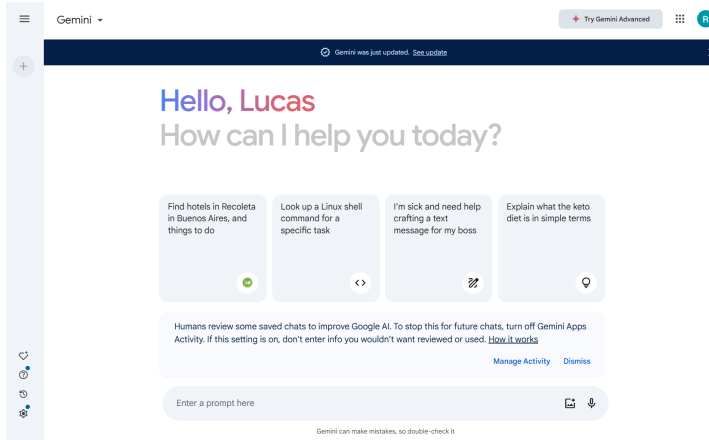
Complete this activity at Activity: Explore Google Gemini, and Microsoft Copilot | myStudentSkillsHub

Objective

This activity aims to help you understand the capabilities of Generative AI tools by exploring their features, interacting with them, and reflecting on their practical applications in your learning journey.

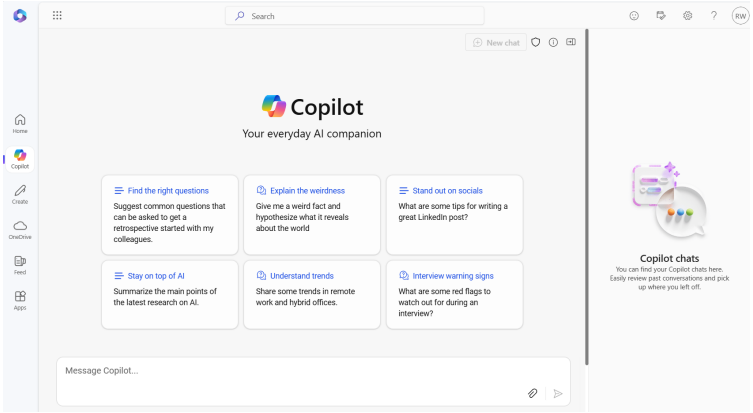
Activity Instructions

1. Explore Google Gemini:



- Visit Google Gemini.
- Sign in with your Google or Gmail account or create a free account.
- Ask Gemini to write you a story about exploring South Africa.
- Then, prompt it to create an image for you that represents the story.

2. Explore Microsoft Copilot:
    - Visit Microsoft Copilot.
    - Sign in with your myLife email account, a personal Microsoft account, or create a free account.
    - Ask the same questions or prompts you asked Google Gemini and compare the results.



Reflection and Take Away

- Reflect on your experience with each tool. How did they respond to your prompts? What differences did you notice between Google Gemini and Microsoft Copilot?
- Share your thoughts on how these tools could be helpful in your studies. Were there any surprising features or limitations?
- Generative AI tools like Google Gemini and Microsoft Copilot have unique features that can support your learning. By experimenting with each tool, you can understand their strengths and limitations, enabling you to make informed decisions about when and how to use them.

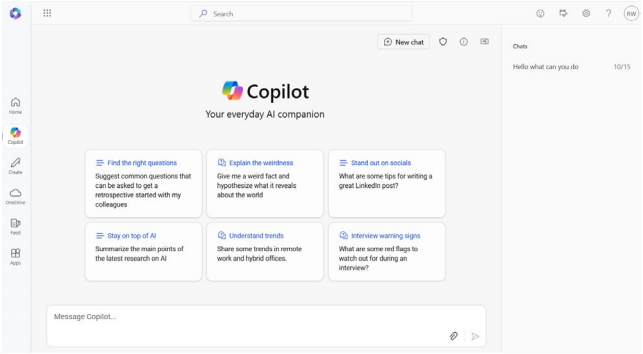
2.12 PROMPT DIFFERENCES IN DIFFERENT SETTINGS

When using AI tools like Gemini or Copilot, it's essential to understand how access settings affect the output:

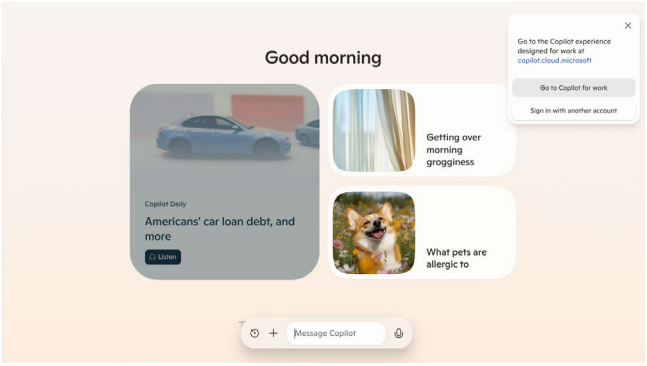
Licensing: Many AI tools like Chat GPT provide subscriptions to more advanced models. As your Unisa myLife email account is an institutional account, you will notice the difference when using

Microsoft Copilot when logged in with your myLife account versus a personal account. Below is an example of the difference:

Copilot, when logged in to your institutional myLife account:



Copilot, when logged in with a personal Microsoft account:



- **Logged in to your myUnisa account or Personal Account:** When logged in, the AI may have access to more personalised data, such as past interactions or user preferences, which could enhance the relevance and depth of the response. For example, if logged in, the AI might recall specific topics you've asked about before and provide more tailored information.

- **Not Logged In**: If you are not logged in, the AI may provide more generalised information, which may lack the specificity needed for academic tasks. For instance, without access to personalised data, the AI might give broader answers less aligned with your specific learning history or preferences.
- **Unique Outputs:** Saving the output does not necessarily save the exact prompt that generated it. Keeping a record of your prompts and the AI outputs can help you track your learning process effectively.

2.13 CONCLUSION

Generative AI is a powerful tool that can create various content, from text and images to music and beyond. Understanding what Generative AI is and how it works allows you to harness its capabilities effectively in your educational journey. As you progress in this course, remember that while AI can be an incredible resource, it is essential to use it responsibly, ensuring that it supplements and enhances your efforts rather than replacing them.

In the following units, we will delve deeper into the responsible use of AI in education and how to evaluate the quality of AI-generated information. Let's continue this exciting journey together!

2.14 FURTHER READING

- Guidance for generative AI in education and research. Link: https://www.unesco.org/en/articles/guidance-generative-ai-education-and-research.
- Generative Artificial Intelligence. Link: https://teaching.cornell.edu/generative-artificial-intelligence

3 – Responsible Considerations in AI Use for Academic Purposes and Evaluating AI-Generated Data

3.1 INTRODUCTION

In this unit, we will explore the responsible use of Artificial Intelligence (AI) in an academic context. As AI becomes increasingly integrated into education, understanding the potential risks is essential for using these tools effectively and responsibly. You will also learn strategies for evaluating AI-generated data to ensure credibility and accuracy. By the end of this unit, you will be equipped with the knowledge to engage with AI while maintaining academic integrity and critical thinking.

3.2 LEARNING OUTCOMES

By the end of this unit, you will be able to:

- Understand the responsible considerations for AI use in education, including academic integrity, privacy, and bias.
- Apply strategies to use AI as a supportive tool while maintaining independent critical thinking skills.
- Assess the credibility and accuracy of AI-generated information.
- Interpret and evaluate data produced by AI tools.

3.3 KEY QUESTIONS

- What are the considerations for using AI in an academic setting?
- How can AI tools impact academic integrity and data privacy?
- What are the potential biases and limitations of AI-generated data?
- How can you use AI responsibly to support your studies without overly relying on it?
- How do you evaluate the credibility and accuracy of AI-generated content?

3.4 KEY CONCEPTS

- *Academic Integrity:* Ensuring honesty and accountability in your academic work, even when using AI tools. This means AI should assist in learning but not replace your effort. Using AI-generated content without proper acknowledgement can lead to plagiarism, compromising your academic integrity.
- *Data Privacy:* Protecting your personal and sensitive information using AI tools. AI platforms often collect data to improve their services, so it's essential to understand

privacy settings and avoid sharing unnecessary personal details with AI systems.

- *Bias in AI:* AI systems can produce biased information because they learn from historical data, which may reflect stereotypes or incomplete perspectives. For African learners, it's crucial to identify and mitigate biases that may not reflect regional or cultural realities.
- *Critical Thinking:* Using your judgment to evaluate AI-generated content for accuracy, reliability, and relevance. AI should not replace your independent thinking but support learning by providing new perspectives or quick insights.
- *Responsible AI Use:* Using AI tools ethically and thoughtfully in academic settings. This includes knowing the terms of service, understanding limitations, and ensuring AI complements your work rather than substituting it.
- *Dependence on Technology:* AI can enhance learning but should not become a crutch. You need to balance using AI with developing your skills, such as problem-solving and independent thinking.
- *AI Tool Terms and Conditions:* Some AI tools restrict how the generated content can be used. It's essential to familiarise yourself with these terms to avoid misuse or violations of policies.
- *Long-Term Implications:* AI is shaping the future of education and the workplace, so you must develop technical skills and adapt to future changes. Understanding these shifts helps you make strategic decisions about how and when to use AI.

3.5 WHAT IS THE RESPONSIBLE USE OF AI IN EDUCATION?

Let's explore the considerations to take to use AI responsibly in education.

Academic Integrity

Using AI in your studies can be beneficial, but it is crucial to maintain academic integrity. AI-generated content should support your understanding and learning, not replace your original work. When using AI for assignments or projects, ensure that you avoid plagiarism and that your originality and depth of understanding are still reflected.

Data Privacy and Security

AI tools often require access to personal information. It is essential to understand how your data is being used and to ensure that privacy settings are enabled to protect your sensitive information. Always be cautious about sharing personal details with AI systems.

Bias and Discrimination

AI systems are trained on large datasets, which can sometimes contain biases. This means that AI-generated content might reflect or amplify these biases. These perspectives are often more Westernised and may not reflect people's views in Africa or other regions. Understanding the potential for bias helps you critically evaluate the information provided by AI and avoid reinforcing stereotypes or misinformation.

Dependence on Technology

While AI can be a powerful learning tool, it is essential to avoid becoming overly reliant on it. AI should complement your learning,

not replace your ability to think critically and solve problems independently.

Right of Use

Some AI tools may have specific terms of use that limit your use of the generated content. Understanding the rights and restrictions associated with each tool is essential to avoid misuse.

Long-Term Implications

Consider the long-term effects of using AI in education. AI can potentially change how we learn and work, but it also raises questions about the skills we need to develop for the future. Reflecting on these implications can help you decide when and how to use AI.

3.6 STRATEGIES FOR USING AI AS A SUPPORTIVE TOOL

AI can assist you in many ways, but it is essential to maintain control over your learning. Here are some strategies to ensure that AI remains a supportive tool:

Ask Questions:

Use AI to explore different perspectives, but always ask follow-up questions to deepen your understanding.

Example: If AI provides an answer about historical events, ask additional questions to get different viewpoints or deeper context, such as “What were the impacts of this event in different regions?”

Limit AI Use:

Use AI selectively for specific tasks, such as brainstorming or getting feedback, rather than relying on it for every aspect of your work.

Example: Use AI to generate ideas for an essay but write the content yourself to ensure originality and depth of understanding.

Reflect on Your Learning:

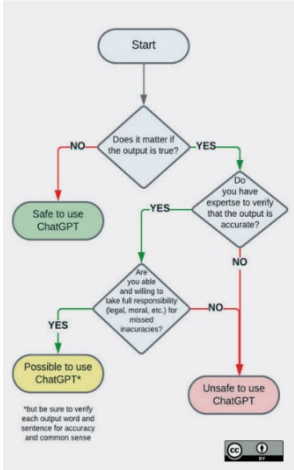
Take time to reflect on the information provided by AI and how it contributes to your learning goals.

Example: After using AI to summarise a topic, review the key points and connect them to your knowledge to ensure the information is meaningful and integrated into your understanding.

3.7 ACTIVITY: WHEN TO USE AI TOOLS

Let's discuss when it is appropriate to use AI-generated content.

Complete this activity at [Activity: When to Use AI Tools | myStudentSkillsHub]



Use the flowchart below to guide you:

Flowchart devised by Aleksandr Tiulkanov, AI and Data Policy Lawyer, January 2023: Available at [ChatGPT-and-Artificial-Intelligence-in-higher-education-Quick-Start-guide_EN_FINAL.pdf]

Let's practice evaluating the responses received from Generative AI LLMS.

Objective

This activity aims to discuss when it's appropriate to use AI-generated content.

Scenario

In today's fast-paced news environment, journalists often face pressure to report quickly and accurately on critical issues. With the rise of AI technologies, reporters have new tools to assist them. However, using AI in journalism, especially in health crises and corruption, raises ethical dilemmas. This activity focuses on exploring the moral responsibilities of journalists when using AI to produce content, using a real-world-inspired scenario based in South Africa.

Let us take the scenario Lethabo faced:

Lethabo is a journalist in South Africa, where governmental corruption related to public health funding is frequently reported. During an ongoing health crisis, Lethabo faces the challenge of quickly publishing accurate information to inform the public and promote accountability. Given the urgency, she considers using ChatGPT to draft parts of her report, incorporating findings from initial investigations and social media insights. However, the complexities of local dialects and the topic's sensitivity present additional challenges.

Evaluate the Ethical Implications

Apply the principles outlined in the flowchart above to evaluate the ethical implications of Lethabo's decision. Use the following criteria to guide your analysis:

- Truth and Accuracy: Assess the importance of truthful and accurate reporting when addressing public health and corruption.
- Expertise to Verify: Reflect on whether Lethabo can validate AI-generated information, especially given the

challenges of understanding local dialects and managing health-related details.

- Responsibility and Consequences: Reflect on the potential impact of misinformation and Lethabo's ethical responsibilities as a journalist reporting sensitive issues.

Discuss

Discuss the following questions:

- How does the need for quick access to information impact the ethical decision to use AI in journalism?
- What steps can Lethabo take to mitigate the risks of using AI-generated content in her reports?

Reflection and Take Away

This activity encourages you to consider the balance between speed and accuracy when writing on a topic, particularly when using AI technologies. You should reflect on the importance of verifying facts and the consequences of submitting unverified information. The exercise highlights the intersection of ethics, technology, and cultural sensitivity, prompting you to explore how to adopt AI tools in your work responsibly. In this activity, you learned how to analyse the ethical challenges of using AI in writing in a specific context. You also developed critical thinking skills using strategies to ensure accuracy when using AI-generated content.

3.8 ASSESSING THE CREDIBILITY OF AI-GENERATED INFORMATION

AI-generated content can be convincing, but it is essential to evaluate its credibility. Consider the following:

Source of Data:

Understand the data on which the AI model was trained. Reliable data leads to more credible outputs.

Example: If the AI-generated content concerns health recommendations, consider whether the model was trained on reputable medical sources such as peer-reviewed journals or government health guidelines.

Cross-Referencing:

Always cross-check AI-generated content with trustworthy sources to confirm its accuracy.

Example: If AI provides information on historical events, verify the details by consulting history textbooks or trusted academic sources to ensure the AI-generated content is factual.

Bias Awareness:

Be aware of potential biases in AI-generated content. AI models often inherit biases from the data they were trained on or how an AI algorithm is designed, particularly if the model's architecture inadvertently emphasises specific patterns or features. If the training data is skewed, the outputs will likely reflect these biases.

Example: If AI-generated content seems to favour one viewpoint over others, consider researching alternative perspectives to identify any bias that may be present in the generated text.

3.9 INTERPRETING AND EVALUATING AI-GENERATED DATA

When working with AI-generated data, it is essential to interpret it accurately and evaluate its relevance and quality. Ask yourself:

Is the Data Accurate?

Does the information align with what you already know or have verified through other sources?

Example: If AI provides data about agricultural practices in South Africa, verify it by checking local agricultural articles or research publications to ensure the information is suitable for the specific region.

Is the Data Relevant?

How relevant is the AI-generated content to your specific question or problem?

Example: If AI suggests using specific crops for farming, consider whether these crops are relevant to the climate and soil conditions in your local South African region.

What Are the Limitations?

Consider the limitations of AI in understanding context or producing quality information.

Example: AI may not fully understand the cultural practices or socioeconomic factors influencing farming in South African communities. Be mindful of these limitations when interpreting AI-generated advice.

What is the Scope of Knowledge?

Be aware that AI may not be current on the latest research or data unless specifically trained on such content.

Example: Generative AI models take much time to train, and their knowledge can be outdated.

3.10 ACTIVITY: EVALUATING AI-GENERATED DATA

Let's practice evaluating the responses received from Generative AI LLMS.

Objective

The objective of this activity is to practice evaluating the credibility, relevance, and limitations of AI-generated data, especially in a South African context, to ensure that the information you use is accurate and reliable.

Activity Instructions

- **Select an AI Tool**: Use Google Gemini or Microsoft Copilot.
- **Generate Content**: Ask the AI about topics relevant to your studies, such as agricultural practices, education systems, or historical events in South Africa.
- **Evaluate the Content**:

  Is the Data Accurate?
  To verify its accuracy, cross-check the AI-generated information with at least two reliable sources (e.g., academic journals, government websites).

  Is the Data Relevant?
  Assess whether the content applies to your specific context or problem. For example, consider whether the information about agriculture is suitable for your local climate and conditions.

- **What Are the Limitations?**
  Reflect on the potential limitations of the AI-generated

content. Does the AI show any bias or lack of cultural understanding? Identify areas where the AI might be oversimplifying complex issues.

- Share Your Findings:

  In the forum, share the AI-generated content along with your evaluation of its accuracy, relevance, and limitations. Discuss any biases you identified and how these might impact the credibility of the information.

- Reflection and Take Away

  - Reflect on the process of evaluating AI-generated data. How easy or challenging was it to verify the information?
  - Share your thoughts on the importance of understanding the source and limitations of AI-generated data, especially in a South African context.
  - In this activity, you learned how to evaluate AI-generated data by checking its credibility, relevance, and limitations. You also explored how cultural context, especially within Africa, can affect the accuracy and applicability of AI-generated information. By practising these skills, you are better equipped to use AI responsibly and critically in your studies.

3.11 CONCLUSION

Responsible use of AI in education requires understanding ethical considerations, including academic integrity, data privacy, and potential biases. You can enhance your learning while maintaining independence by developing critical thinking skills and using AI as a supportive tool rather than a crutch. Evaluating the credibility of

AI-generated information is key to making informed decisions and using AI effectively in your studies.

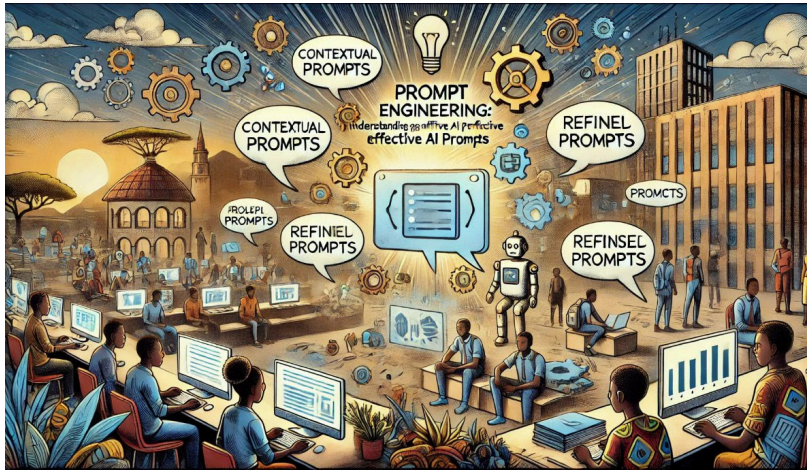
In the next unit, we will explore practical examples of prompt engineering and how to write effective prompts to get the most out of AI tools.

Let's continue our journey with confidence and responsibility!

3.12 FURTHER READING

- Ethics of Artificial Intelligence in Academic Research and Education. Link: https://link.springer.com/referenceworkentry/10.1007/978-981-287-079-7_143-1.
- Ethical AI for Teaching and Learning. Link: https://teaching.cornell.edu/generative-artificial-intelligence/ethical-ai-teaching-and-learning.
- Bias of AI-generated content: an examination of news produced by large language models. Link: https://www.nature.com/articles/s41598-024-55686-2.pdf.

4 – Prompt Engineering: Understanding and Writing Effective Prompts



4.1 INTRODUCTION

Writing the right prompt is key to unlocking the full potential of AI tools. In this unit, you will learn how to create prompts that help you obtain accurate, relevant, and insightful responses from AI. Prompt engineering is both an art and a science, involving the strategic use of words and context to guide AI toward providing helpful answers. For example, a well-written prompt like *"Explain photosynthesis in simple terms"* can transform a complex topic into something easily understandable, while a vague prompt like *"Tell me about plants"* may yield less useful results. By mastering this skill, you'll enhance your ability to interact meaningfully with AI and use it as a powerful tool in your learning journey.

4.2 LEARNING OUTCOMES

By the end of this unit, you will be able to:

- Define what prompt engineering is and understand its significance.
- Develop skills in writing clear, effective AI prompts.
- Understand the importance of context and use different techniques to refine prompts for optimal AI responses.
- Apply role-based prompts to simulate different scenarios with AI.

4.3 KEY QUESTIONS

- What is prompt engineering, and why is it important?
- How can you develop skills in writing effective AI prompts?
- How does adding context influence the quality of AI responses?
- What techniques can be used to refine AI prompts for better answers?
- How can prompting an AI to perform a specific role enhance your learning experience?

4.4 KEY CONCEPTS

- *Prompt Engineering:* Crafting effective questions or instructions to guide AI toward providing meaningful and relevant responses. This skill is essential for getting the most out of AI tools, particularly in educational contexts.
- *Context:* The background information that clarifies to the AI what is being asked. Adding context ensures the AI's responses are more targeted, accurate, and relevant.
- *Role-Based Prompts:* Instructions that ask the AI to take on a specific role, such as a teacher, editor, or counsellor,

to produce responses from that perspective. This technique helps generate more tailored outputs for different scenarios.

- *Refinement:* Improving prompts by making them more specific or adjusting their structure for clarity and focus. Refinement ensures that the AI understands your query better and provides high-quality responses.
- *Instructional Language*: Using clear instructional words, such as "compare," "list," or "analyse," to structure prompts effectively. This aligns with academic practices and ensures precise outcomes from AI tools.
- *Keyword Use:* Incorporating specific keywords related to the topic helps guide the AI in generating more relevant responses. For example, using "photosynthesis" and "carbon dioxide" instead of just "plants" will yield more targeted information.
- *Structured Prompts:* Prompts that are organised and formatted clearly for specific tasks, such as problem-solving, creative writing, or instructional tasks. Structuring your prompts improves the quality of AI's output.
- *Iterative Refinement:* The practice of continuously adjusting prompts based on the AI's responses to improve outcomes. This iterative process helps in developing better interactions with AI.
- Learning-Level Adjustments: The ability to tailor AI responses based on the user's level of understanding, such as beginner, intermediate, or advanced. This makes AI-generated content more accessible and useful for different learning stages.

- *Voice and Multimodal Prompts:* Using voice inputs or combining text with images or documents to enhance interactions with AI. This method provides richer context and allows for more diverse outputs.
- *Ethical and Safe Prompting:* Designing prompts that avoid bias or inappropriate responses, ensuring AI is used responsibly. This includes asking balanced questions and critically evaluating AI-generated information.

4.5 WHAT IS PROMPT ENGINEERING

Prompt engineering is formulating questions or instructions that allow you to get the most meaningful response from an AI tool. The quality of a prompt directly affects the quality of the AI's answer. A well-crafted prompt is clear, specific, and includes enough context for the AI to understand what you're asking. Whether you're trying to solve a complex problem, generate creative content, or learn a new concept, prompt engineering is essential to guide the AI toward providing the most helpful answers.

4.6 IMPORTANCE OF PROMPT ENGINEERING

- *Enhanced Accuracy and Relevance:* Good prompts lead to more accurate and relevant responses. You can retrieve more precise information suitable for academic research, project work, or during learning sessions.
- *Efficiency:* Well-engineered prompts reduce the need for follow-up questions and corrections. This saves time and makes the learning process more efficient.

- *Customisation and Critical Thinking:* Through prompt engineering, you can tailor AI responses to specific needs or preferences, whether looking for simple explanations, detailed research summaries, or creative ideas. Writing effective prompts also requires a clear understanding of what information is needed and why, enhancing critical thinking skills.
- *Ethical Use of AI:* Proper prompt engineering helps mitigate bias and misinformation. You can use these tools more responsibly by understanding how to ask the right questions and evaluate AI responses critically.
- *Preparation for Future Technologies:* As AI becomes more integrated into various fields, having the skill to interact effectively with AI will be invaluable. Prompt engineering is not just about using AI; it's about shaping how AI is used in academia and beyond.
- *Link to Academic Literacies:* Writing effective prompts is closely tied to language skills and academic literacies. Understanding the intricacies of language, including instructional words like "list," "define," "compare," "contrast," and "critique," helps in creating precise prompts that lead to better outcomes. These skills are essential for academic success and effective communication.

4.7 THE ROLE OF PROMPTS IN AI SYSTEMS

- *How AI Interprets Prompts:* AI models process text prompts by breaking them down and analysing the

instructions, context, and specificity provided. The phrasing of a prompt can significantly influence the output, as AI generates responses based on the data it was trained on. Clear instructions and detailed context can help the AI provide more accurate and relevant answers.

- *Prompt Variability:* Even small changes in a prompt can lead to different outputs. This highlights the importance of experimenting with prompt phrasing to find the most effective formulation. Varying word choices or adding specific details can refine the AI's response.
- *Guiding the AI's Response:* The most direct role of a prompt is to guide the AI's response. The content and structure of the prompt tell the AI the kind of information or output that is expected.
- *Context Setting:* Prompts provide context that helps the AI determine the scope and depth of the response. For instance, asking for a "brief overview" versus a "detailed analysis" cues the AI to adjust the complexity and length of its response accordingly.
- *Filtering Information:* A well-crafted prompt helps the AI filter its vast knowledge to focus only on the relevant parts. This is crucial in educational settings where specificity and accuracy are essential.
- *Triggering Specific Functions:* In sophisticated AI systems, prompts can trigger specific functions or modes, such as translation or summarisation, based on the instructions given.
- *Managing User Expectations:* Prompts also set expectations for what the AI will deliver, guiding users to

phrase their prompts effectively based on the responses they receive.

- *Ethical and Safe Interactions:* Effective prompting includes designing inputs that avoid triggering inappropriate or biased responses from the AI, ensuring that interactions promote positive outcomes and prevent misuse.

4.8 DEVELOPING SKILLS IN WRITING EFFECTIVE AI PROMPTS

4.8.1 UNDERSTAND THE CAPABILITIES OF THE AI

Before writing prompts, knowing what the AI system can do is essential. Familiarise yourself with the AI's strengths, weaknesses, and typical response patterns. This knowledge helps formulate prompts within the AI's capacity to answer accurately.

4.8.2 BE SPECIFIC AND CLEAR

Ambiguity can lead AI astray, so clarity and specificity in prompts are crucial. Clearly define what you want the AI to do or the information you seek.

Example:

- Background: You want to visit Johannesburg as a visitor to learn more about the city's culture.
- Vague Prompt: "Tell me about Johannesburg."
- Specific Prompt: "Provide a summary of the key tourist attractions of Johannesburg, focusing on cultural enrichment."

Example:

- Background: “You are dating a Zulu person and thinking of marrying them, but you are not from the Zulu culture.”
- Vague Prompt: "What is Zulu culture?"
- Specific Prompt: "What is the cultural process of marrying a Zulu person?”

4.8.3 USE THE RIGHT KEYWORDS

Incorporating relevant keywords or phrases helps the AI better understand the prompt’s context and the desired focus.

Example:

- Background: You are working on a biology project about plants and need to understand how photosynthesis works.
- Basic Prompt: "Explain photosynthesis."
- Keyword-Enhanced Prompt: "Explain the process of photosynthesis, including the roles of sunlight, water, and carbon dioxide."

Example:

- Background: You are researching the possible impact climate change and human activity have had on recent increases in natural disasters in South Africa.
- Basic Prompt: Why did natural disasters increase in South Africa?
- Keyword-Enhanced Prompt: What could be the role and impact of climate change and human activity on increased natural disasters in South Africa?

4.8.4 STRUCTURE YOUR PROMPTS EFFECTIVELY

Structuring prompts effectively for different tasks is a key component of efficient AI interaction, especially as AI tools become more integrated into various academic, professional, and personal applications. Here's how to approach prompt structuring for different task types.

When writing prompts for AI, it's essential to tailor the structure based on the specific task you need the AI to perform. Here are some common task types and strategies for structuring prompts effectively:

- *Information Retrieval:* Your prompt should clearly state the required details and contextual parameters when seeking specific information or data.
- *Problem Solving:* For tasks involving calculations, analysis, or troubleshooting, include the problem statement clearly and specify any methodologies or constraints.
- *Creative Tasks:* If you're asking the AI to generate ideas, stories, or designs, provide a theme, style, or any specific elements you want included.
- *Instructional Tasks:* When you need step-by-step instructions or tutorials, clearly define the end goal and any prerequisites or tools available.
- *Opinion or Analysis:* For insights into views, evaluations, or interpretations, specify the perspective, criteria for analysis, and any particular focus areas.

The structure of your prompt can influence the quality of the AI's response. Using well-structured sentences and including necessary details can guide the AI more effectively.

Example:

- *Background:* There is a water shortage due to a lack of rain in your area, resulting in hardship for farming and a shortage of drinking water. You want to know what can be done to alleviate the water shortage in your area.
- *Unstructured Prompt:* How can I alleviate the water shortage due to the lack of rain in my area?
- *Structured Prompt:* What can I do to alleviate the effects on farming and drinking water due to the lack of rain in Kakamas?

4.8.5 PROVIDE CONTEXT WHEN NEEDED

Context in prompt engineering refers to the additional information that defines the background, setting, or conditions of a query or command. It helps AI systems understand a prompt's scope and specific requirements, leading to more accurate and relevant responses. Here are the reasons why context is crucial:

- *Reduces Ambiguity:* Adding context helps clarify what the user is asking, minimising the chances of ambiguous or irrelevant responses.
- *Improves Precision:* By defining the parameters of a request, context ensures that the AI focuses on generating precise information.
- *Enhances Relevance:* Contextual information ensures that responses are accurate and relevant to the user's situation or problem.
- *Guides AI's Reasoning:* Context guides AI's underlying algorithms, directing its reasoning process towards the desired outcome.

Contextual Prompt Structuring

To effectively integrate context into AI prompts, it's essential to structure prompts in a way that explicitly includes necessary background details. Here's how to structure prompts contextually:

Specify the Domain: Indicate if the prompt relates to a particular field or domain, like finance, healthcare, or education.
Include Necessary Details: Include relevant details such as geographical information, specific populations, and time frames.
Clarify the Purpose: Explain why you are asking the question. For instance, state if the information is needed for a research paper, project decision, or classroom discussion.
Set the Scope: Define the breadth of the information required—whether a broad overview or a deep dive into a specific aspect.

4.8.6 ITERATE AND REFINE

Prompt engineering often requires tweaking prompts based on the AI's responses. If the first attempt doesn't yield a satisfactory answer, refine the prompt based on what was missing or misunderstood.

Example:

- First Prompt: "Write a poem about nature."
- Refined Prompt: "Write a four-stanza poem about the beauty of the Lowveld in South Africa, focusing on vivid imagery and sensory details."

Example:

- Background: There is a water shortage due to a lack of rain in your area, resulting in hardship for farming and a shortage of drinking water. You want to know what can be done to alleviate the water shortage in your area.

- First Prompt: What can I do to alleviate the effects on farming and drinking water due to the lack of rain in Kakamas?
- Refined Prompt: Explain how a community water project can be implemented.

4.8.7 USE DIRECT COMMANDS FOR ACTION-ORIENTED TASKS

A direct command can be effective when you need the AI to perform a specific action.

Example:

- Indirect Prompt: I need help translating the phrase 'How are you?' into Zulu.
- Direct Command Prompt: Translate 'How are you?' into Zulu.

4.9 PROMPTING THE AI TO TAKE ON A PARTICULAR ROLE

A powerful feature of prompt engineering is asking the AI to take on a particular role. This allows you to get responses that are more targeted to your needs.

- Example Roles:
    - Teacher: "Act as a history teacher and explain the significance of the African Union in fostering continental unity."
    - Editor: "As an editor, help me refine this essay introduction to make it more engaging."
    - Counsellor: "Pretend you are a student counsellor. How would you advise someone struggling with time management in online courses?"

This approach helps you gain different perspectives and receive answers in a format that matches the intended context.

4.10 PROMPTING TECHNIQUES

4.10.1 BENEFITS OF ASKING FOR EXPLANATION AT DIFFERENT LEARNING LEVELS

One of the best ways to use AI is to ask for explanations that match your current level of understanding. For instance, asking AI to explain a concept, "like I am 5", will produce a very visual and simple explanation, making it easier to grasp basic ideas. Asking at a "high school level" (e.g., age 16) will provide more detail, with a higher complexity suitable for that level. At the "university level," the response will use more academic terms and depth, ideal for advanced learning. You can build on that knowledge step by step by starting with a visual understanding. For example:

- *Beginner Level:* "Explain the concept of machine learning as if I'm new to the topic."
- *Intermediate Level:* "Describe the differences between supervised and unsupervised learning, with examples."
- *Advanced Level:* "Provide a detailed analysis of the limitations of unsupervised learning models in AI."

By specifying the learning level, you help the AI tailor its response to your current knowledge, making it easier to understand and build upon new concepts.

Practical Activity: To reinforce this concept, try creating prompts for a single topic at different learning levels:

Topic: Photosynthesis

- Beginner Level: "Explain photosynthesis in simple terms, like talking to a 5-year-old."
- Intermediate Level: "Describe the process of photosynthesis, including the role of sunlight, water, and carbon dioxide."
- Advanced Level: "Analyse the biochemical stages of photosynthesis, focusing on the light-dependent and light-independent reactions." Reflect on how each prompt changes the depth and complexity of the AI's response.

4.10.2 TECHNIQUES FOR REFINING SEARCHES TO OBTAIN OPTIMAL AI RESPONSES

Sometimes, your first response from AI may not be what you hoped for. Here are ways to refine your prompts:

- *Clarify Your Question:* If the response is too broad, narrow it down by specifying what you want. Example: Instead of "Tell me about climate change," ask "How is climate change affecting agriculture in East Africa?"
- *Ask Follow-Up Questions:* You can guide the AI by asking more questions based on the initial response. Example: "Can you elaborate on how agricultural technology is mitigating climate change impacts in East Africa?"
- *Use Examples:* Adding examples can make your prompt more concrete. Example: "Give me examples of African countries where mobile banking has significantly impacted local economies."
- Initial vs. Refined Prompt Example: A concrete example of how a small change can improve the response.
- *Initial Prompt:* "Tell me about renewable energy." Refined Prompt: "Explain the advantages and challenges of solar energy as a renewable resource, focusing on its use in

Southern Africa." This refinement adds specificity, which helps the AI generate a more focused and helpful response.

- *Save Your Results:* Remember to save the output from your prompts. AI may provide different responses if you use the same prompt later, so saving valuable insights ensures you can refer to them.

4.10.3 USING PROMPTS TO EXPLAIN A TOPIC IN YOUR HOME LANGUAGE

Prompt engineering can be even more powerful when you use your home language. Asking the AI to explain a topic in your language helps you understand complex concepts more intuitively and bridges the gap for those more comfortable learning a local language. Here are some examples of how to use prompts to explain a topic in your home language:

Example 1: "Explain photosynthesis in Tswana."

- AI Response: "Photosynthesis ke mokgwa wa dimela wa go fetola lesedi la letsatsi go nna dijo. Mo tsamaong eno, dimela di dirisa metsi le khemikale e e bidiwang carbon dioxide go dira dijo le oksijene."

Example 2: "Describe the importance of water conservation in Zulu."

- AI Response: "Ukongiwa kwamanzi kubalulekile ngoba kusiza ekuvikelekeni komthombo wamanzi wesikhathi esizayo. Lokhu kusebenza kakhulu uma kunciphisa ukusetshenziswa kwamanzi ekhaya, ezolimo, nasezimbonini ukuze kuqinisekiswe ukuthi izizukulwane ezizayo nazo zizoba namanzi."

Example 3: "How does gravity work? Explain in Swahili."

- AI Response: "Mvuto ni nguvu inayovuta vitu kuelekea katikati ya dunia. Kwa mfano, unaporusha kitu juu, kinarejea chini kwa sababu mvuto wa dunia unakivuta."

By using your home language, you make learning more accessible and relatable. This approach also encourages using local languages in academic contexts, promoting inclusivity in education.

4.11 USING VOICE PROMPTS AND AUDIO REPLIES

Using voice prompts and audio replies can make interactions with AI even more intuitive and convenient. Many AI tools, like Google Gemini, allow you to input prompts using your voice and receive audio responses, which can be particularly helpful for learners who prefer auditory input or have difficulties with typing. Here are the steps to use voice prompts and audio replies:

Steps to Use Voice Prompts with Google Gemini:

1. *Open Google Gemini:* Start by navigating to the Google Gemini interface on your device.
2. *Activate Voice Input:* Click on the microphone icon at the bottom of the chat input box.
3. *Speak Your Prompt:* Clearly state your prompt. For example, you could say, "Explain how renewable energy works."
4. *Receive an Audio Reply:* Once the AI processes your prompt, you can listen to the response by clicking the audio playback button (often represented by a speaker icon). This allows you to hear the information without needing to read.

Examples:

- *Voice Prompt*: "How do plants make their food? Explain like I'm five."
    - *Audio Response:* The AI will explain photosynthesis simply and engagingly, and you can listen to the response.
- *Voice Prompt:* "Describe the importance of exercise for high school students."
    - *Audio Response:* The AI will provide a detailed answer, emphasising key benefits such as health and mental well-being, which can be played back as audio.

Voice prompts can enhance accessibility, making AI more user-friendly for people who learn better through listening or prefer speaking over typing.

4.12 ADDING DOCUMENTS AND IMAGES TO PROVIDE MORE CONTEXT

Adding documents and images to a prompt can provide additional context that helps the AI generate more relevant and insightful responses. Many AI tools allow users to upload documents or photographs, which the AI can use to understand their query better and provide more accurate information. Here are the steps on how to do this effectively:

Steps to Add Documents and Images to a Prompt:

- *Open the AI Tool:* Access the Google Gemini or Microsoft Copilot interface that supports document or image uploads.

- *Locate the Upload Option:* Look for an icon or button that allows you to upload files. A paperclip or camera icon often represents this.
- *Upload the File:* Select the document or image you want to upload. For example, you could upload a PDF of an article you need summarised or a picture of a diagram you want explained.
- *Add a Prompt:* Type in your prompt to provide further instructions after uploading. For instance, "Summarise the key findings of this research paper" or "Explain the parts of this diagram related to photosynthesis."
- *Review AI Response:* Review the response and ask follow-up questions once the AI processes the document or image.

Examples:

- *Document Prompt:* Upload a PDF of a scientific article and prompt, "Summarise the key findings of this study, focusing on the impact of climate change on agriculture."
    - *AI Response:* The AI will analyse the document and summarise the key findings.
- *Image Prompt:* Upload an image of a flowchart and prompt, "Explain each step of this flowchart in simple terms."
    - *AI Response:* The AI will describe the components of the flowchart, making it easier to understand the process visually.

Using documents and images can significantly enhance the quality of AI responses, especially when dealing with complex information or visual elements. This approach makes the interaction richer and more tailored to your needs.

4.13 ACTIVITY: PROMPT ENGINEERING

In this final activity, you will apply everything you've learned about prompt engineering to create and refine prompts. This exercise will allow you to practice, receive feedback, and reflect on your learning. Complete this activity at Activity: Prompt Engineering | myStudentSkillsHub

Objective

This activity aims to consolidate your understanding of prompt engineering by writing prompts, refining them based on AI responses, and engaging with your peers for constructive feedback.

Activity Instructions:

- *Select a Topic:* Choose a topic that interests you or is related to a current course. This could be a research question, a problem you want to solve, or a concept you want to understand better.
- *Create Initial Prompts:* Write three initial prompts for your chosen topic. Each prompt should focus on a different aspect, such as explaining a concept, solving a problem, or summarising information.
- *Refine Your Prompts:* Based on the AI's responses, refine each prompt to make it more specific or tailored to your needs. Add context, use instructional words, or change the complexity level to improve the response.

- *Post in Forum:* Share your initial and refined prompts and the AI's responses in the course forum. Highlight the changes you made and explain why you made them.
- *Provide Feedback:* Review at least two other student posts on the forum. Provide constructive feedback on their prompts, comment on what worked well and suggest improvements.

Reflection and Take Away
Reflect on the feedback you received from your peers and how it helped you improve your prompting skills. Write a short paragraph summarising your learning experience, insights gained, and how this exercise has influenced your approach to prompt engineering. This activity will help you practice prompt engineering and engage with your peers to deepen your understanding.

4.14 CONCLUSION

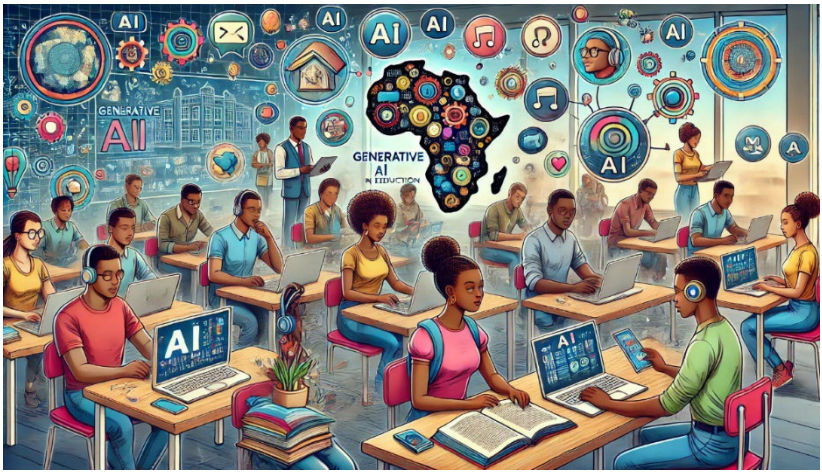
Prompt engineering is a powerful skill that allows you to unlock the full potential of AI tools. You can guide AI to provide insightful and relevant answers by crafting clear, specific, and well-contextualised prompts. Understanding the importance of context, learning levels, and role-based prompts helps you use AI effectively for learning, problem-solving, or creative exploration. As you practice these techniques, you'll become more confident interacting with AI, turning it into a valuable partner in your educational journey. Remember, the key to effective AI communication lies in the quality of your prompts—so keep experimenting and refining your skills!

4.15 FURTHER READING

- Effective Prompts for AI: The Essentials. Link: https://mitsloanedtech.mit.edu/ai/basics/effective-prompts/.

- The Art of AI Prompt Crafting: A Comprehensive Guide for Enthusiasts. Link: https://community.openai.com/t/the-art-of-ai-prompt-crafting-a-comprehensive-guide-for-enthusiasts/495144.

5 – Conclusion and Next Steps



5.1 INTRODUCTION

As we reach the end of this African Artificial Intelligence (AI) Masterclass on AI Prompt Engineering, it's time to reflect on our journey together. You've gained foundational knowledge about Generative AI, learned how to use AI tools responsibly, and developed skills in writing effective AI prompts. This final unit will help you consolidate your learning and provide guidance on how to continue applying and expanding your newfound skills.

5.2 LEARNING OUTCOMES

By the end of this unit, you will be able to:

- Summarise the key concepts learned throughout the course.
- Reflect on how AI can be integrated into your ongoing learning journey.

- Identify opportunities for further learning and development in AI.
- Understand the importance of continuous learning in the rapidly evolving field of AI.

5.3 KEY INSIGHTS FROM THIS RESOURCE

Generative AI and Its Use in Education

- *Understanding Generative AI:* You learned what it is and how it differs from traditional AI.
- *AI Tools:* You explored various AI tools like Google Gemini, Microsoft Copilot, and Unisa's Lwazi, gaining hands-on experience.
- *Applications in Education:* You discovered how AI can enhance personalised learning, provide instant feedback, and assist in content creation.

Responsible Use of AI

- *Academic Integrity:* Emphasised the importance of using AI responsibly to maintain honesty and originality in your work.
- *Data Privacy and Bias:* Understood the potential risks related to data privacy and biases in AI-generated content.
- *Critical Evaluation:* Developed skills to assess the credibility and accuracy of AI outputs.

Prompt Engineering

- *Effective Prompt Writing:* Learned techniques to craft clear and specific prompts to get optimal AI responses.
- *Role-Based Prompts:* Explored how assigning roles to AI can tailor the responses to your needs.

- *Refining Prompts:* Practised iterating and refining prompts based on AI feedback.

5.4 REFLECTION ACTIVITY

Take a moment to reflect on the following questions:

- How has your understanding of AI evolved throughout this course?
- In what ways do you plan to integrate AI tools into your future learning or work?
- What challenges did you face, and how did you overcome them?

Feel free to share your reflections in the course forums to engage with your peers.

5.5 POST-COURSE ASSESSMENT SURVEY

Please complete this quiz to check your knowledge after starting this course. This will give you an indication of the knowledge gained through the course.

Complete the quiz at: STU-110: Post-Course Assessment Survey | myStudentSkillsHub

5.6 FINAL ASSESSMENT QUIZ

Please complete this quiz to see if you achieved all the key learning outcomes. Complete the quiz at STU-110: Final Assessment | myStudentSkillsHub

5.7 NEXT STEPS

Continued Learning

- Stay Updated: Follow reputable AI news sources and journals to keep abreast of the latest developments.

- Online Courses: Enrol in advanced AI and machine learning courses to deepen your knowledge.
- Join Communities: Participate in online forums and local meetups focused on AI and technology.

Applying Your Skills

- Practice Regularly: Continue using AI tools in your studies to reinforce your prompt engineering skills.
- Share Knowledge: Teach others what you've learned to solidify your understanding further.
- Ethical Use: Always consider the ethical implications when using AI, promoting responsible practices.

5.8 COURSE FEEDBACK

Your feedback is valuable in improving future iterations of this course. Please take a few minutes to complete the course evaluation survey. Provide your input at STU-110: Course Evaluation | myStudentSkillsHub

5.9 FINAL THOUGHTS

Congratulations on completing the African AI Masterclass on AI Prompt Engineering! You've taken significant steps toward becoming proficient in interacting with AI technologies. Remember that AI is a tool to augment your abilities, not replace them. Continue to explore, ask questions, and embrace AI's possibilities in enhancing your learning journey.

6 – Artificial Intelligence (AI) Integration Checklist

The following checklist has been developed using ChatGPT with the prompt to analyse this resource and develop a checklist for AI integration in Teaching and Learning.

AI INTEGRATION IN TEACHING AND LEARNING CHECKLIST

6.1 FOUNDATIONAL PREPARATION

- Understand basic concepts of AI, Generative AI, and Large Language Models (LLMs).
- Learn ethical considerations: academic integrity, data privacy, and bias in AI.
- Set clear objectives for how AI will support learning or workflow (e.g., personalised learning, content generation, feedback).

6.2 TOOLS AND ACCESS READINESS

- Secure access to AI tools (Google Gemini, Microsoft Copilot, Lwazi).
- Ensure an internet-enabled device and recommended browsers (e.g., Microsoft Edge) are available.
- Create necessary accounts (Google, Microsoft, institutional logins).

6.3 RESPONSIBLE AND ETHICAL USE

- Train users on the responsible use of AI, especially plagiarism and originality.
- Review and adjust data privacy settings for each AI tool.
- Educate users about recognising and mitigating AI bias.
- Understand licensing and rights regarding AI-generated content.

6.4 SKILL DEVELOPMENT

- Provide training on Prompt Engineering:
    - Crafting clear, specific, and contextual prompts.

    - Using role-based prompts for tailored outputs.
    - Refining prompts iteratively based on AI responses.
- Teach critical evaluation of AI-generated outputs:
    - Cross-referencing with credible sources.
    - Assessing bias, accuracy, and relevance.

6.5 PRACTICAL INTEGRATION INTO LEARNING

- Introduce AI for:
    - Brainstorming and idea generation.
    - Summarising large amounts of content.
    - Generating personalised feedback.
    - Creating multimedia content (text, images, music).
- Implement activities like:
    - Icebreakers with AI chatbots (e.g., Lwazi).
    - Generating songs, summaries, or visual content.
    - Using voice prompts and multimodal inputs (documents/images).

6.6 ETHICAL DECISION-MAKING AND SCENARIO PLANNING

- Use real-world scenarios (like journalism ethics) to practice responsible AI use.
- Apply flowcharts or decision trees to determine when AI use is appropriate.

6.7 MONITORING AND REFLECTIVE PRACTICES

- Regularly reflect on AI experiences (what worked, what didn't).
- Maintain forums or discussion spaces to share AI-generated outputs and reflections.
- Encourage users to save prompts and responses for review and learning tracking.

6.8 CONTINUOUS LEARNING AND IMPROVEMENT

- Encourage ongoing engagement with updated AI guidance.

- Promote enrollment in more advanced AI and machine learning courses.
- Foster a culture of ethical, critical, and innovative AI exploration.

7 – Additional Self-Directed Learning Activities

ChatGPT has developed the following 10 self-directed learning activities with the prompt to create 10 self-directed learning activities designed to deepen understanding of AI concepts, prompt engineering, and responsible AI use.

7.1 AI EXPLORATION JOURNAL

Objective: Track your learning journey with AI.
Instructions:

- Interact with an AI tool of your choice (Google Gemini, Microsoft Copilot, or Lwazi).
- Document:
  - The prompts you used.
  - The responses received.
  - What worked well and what didn't.
- Reflect on how AI could improve your learning process.
  Outcome: Develop critical reflection skills and prompt refinement techniques.

7.2 ETHICAL AI CASE STUDY ANALYSIS

Objective: Understand ethical considerations in AI usage.
Instructions:

- Select a real-world case where AI was used inappropriately or controversially (e.g., biased AI systems in journalism or healthcare).
- Analyse the case using these questions:
  - What ethical concerns arose?
  - How could these issues have been avoided?

- How would you apply ethical principles if you were in that scenario?
  Outcome: Strengthen awareness of academic integrity, bias, and responsible AI practices.

7.3 ROLE-BASED PROMPTING PRACTICE

Objective: Explore different AI perspectives using role-based prompts.
Instructions:

- Choose a topic you're currently studying.
- Create three prompts where the AI takes on different roles (e.g., teacher, editor, counsellor).
- Compare how each role changes the response.
  Outcome: Learn how to tailor AI outputs to meet specific needs.

7.4 MULTIMODAL AI CHALLENGE

Objective: Integrate visual and textual inputs for richer learning experiences.
Instructions:

- Find a complex diagram or text-heavy document related to your studies.
- Upload it to an AI tool that supports multimodal inputs (e.g., Google Gemini or Microsoft Copilot).
- Ask the AI to:
  - Summarise the content.
  - Explain key concepts in simple terms.
  - Suggest potential applications of the information.
    Outcome: Enhance understanding of how AI processes and interprets different data types.

7.5 PROMPT ENGINEERING FOR LANGUAGE LEARNING

Objective: Use AI to explore multilingual explanations of concepts.
Instructions:

- Select a topic you're learning (e.g., photosynthesis, historical events).
- Ask the AI to explain the topic in English and your home language.
- Compare explanations for clarity and cultural relevance.
- Reflect on the value of using local languages for learning complex topics.
  Outcome: Develop prompt engineering skills while promoting inclusivity.

7.6 AI CREATIVITY SESSION: CONTENT GENERATION

Objective: Harness AI for creative content generation.
Instructions:

- Choose a creative task (e.g., writing a poem, creating a song, or generating a visual prompt).
- Craft a detailed prompt for the AI to generate your chosen content.
- Reflect on:
  - How well the AI captured your intended theme.
  - What adjustments could improve the output?
    Outcome: Experience AI's creative potential while refining prompt specificity.

7.7 BIAS DETECTION EXERCISE

Objective: Identify and evaluate bias in AI responses.
Instructions:

- Ask the AI a culturally sensitive question (e.g., educational practices in Africa vs. Western countries).
- Evaluate:
    - Whether the response reflects any biases (cultural, regional, or data-related).
    - How the bias could affect learning or decision-making.
- Suggest ways to mitigate bias in future AI use.
  Outcome: Build awareness of AI biases and improve critical evaluation skills.

7.8 PERSONALISED STUDY AID CREATION

Objective: Use AI to develop study resources tailored to your learning needs.
Instructions:

- Select a subject you find challenging.
- Use AI to:
    - Generate study notes or summaries.
    - Create quiz questions for self-assessment.
    - Provide examples or analogies for complex concepts.
- Evaluate the usefulness of the AI-generated materials.
  Outcome: Enhance learning efficiency through personalised AI support.

7.9 AI TOOL COMPARISON

Objective: Compare outputs from different AI tools.
Instructions:

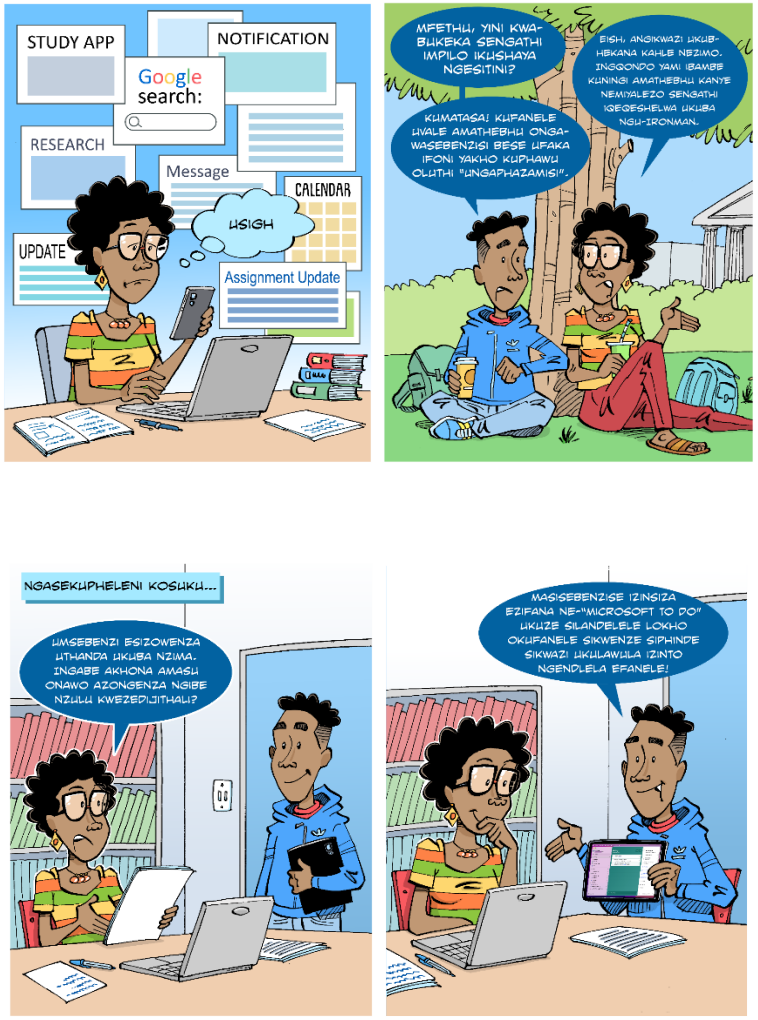
- Use a single prompt across two or more AI platforms (e.g., Google Gemini vs. Microsoft Copilot).
- Compare:
    - Response depth and accuracy.
    - Differences in tone or approach.
    - Strengths and limitations of each tool.
- Reflect on which tool suits your learning needs and why.
  Outcome: Develop an understanding of various AI platforms and their capabilities.

7.10 FUTURE OF AI: REFLECTION AND GOAL SETTING

Objective: Plan how to integrate AI into your long-term learning journey.
Instructions:

- Reflect on what you've learned about AI's potential in education.
- Consider:
    - How you can continue using AI responsibly in your studies.
    - New AI skills you'd like to develop.
    - Potential areas where AI can support your personal or professional growth.
- Set actionable goals for continued AI learning and experimentation.
  Outcome: Establish a growth mindset toward AI integration in lifelong learning.

8 – isiZulu Comic Strip on Student Digital Resilience

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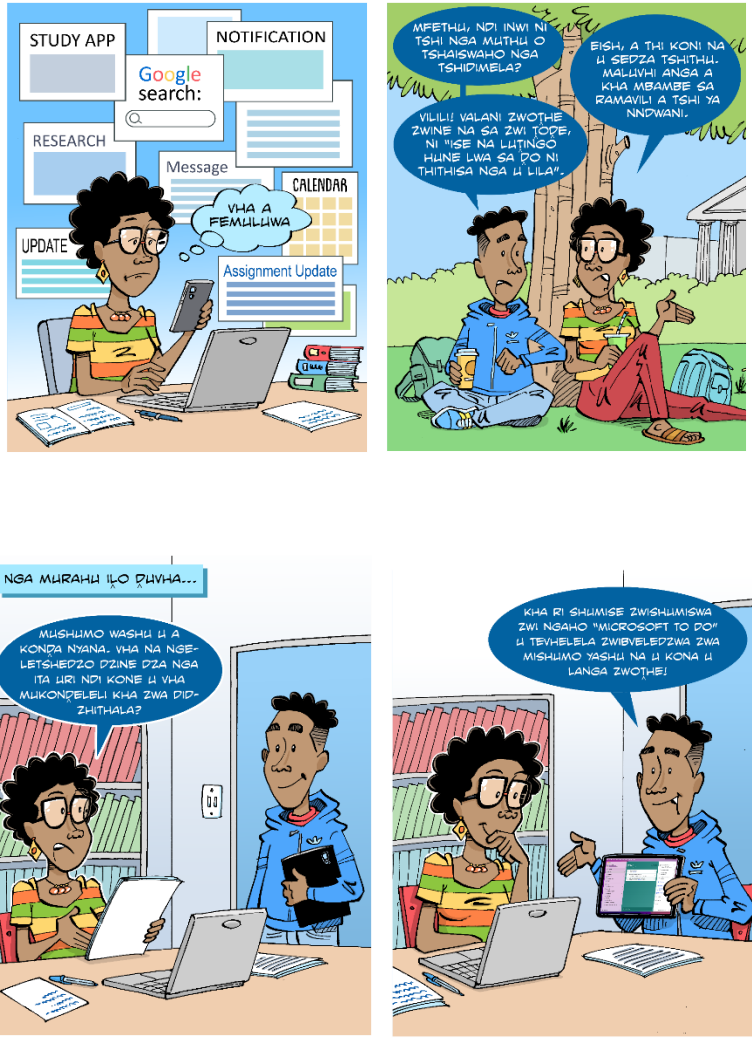
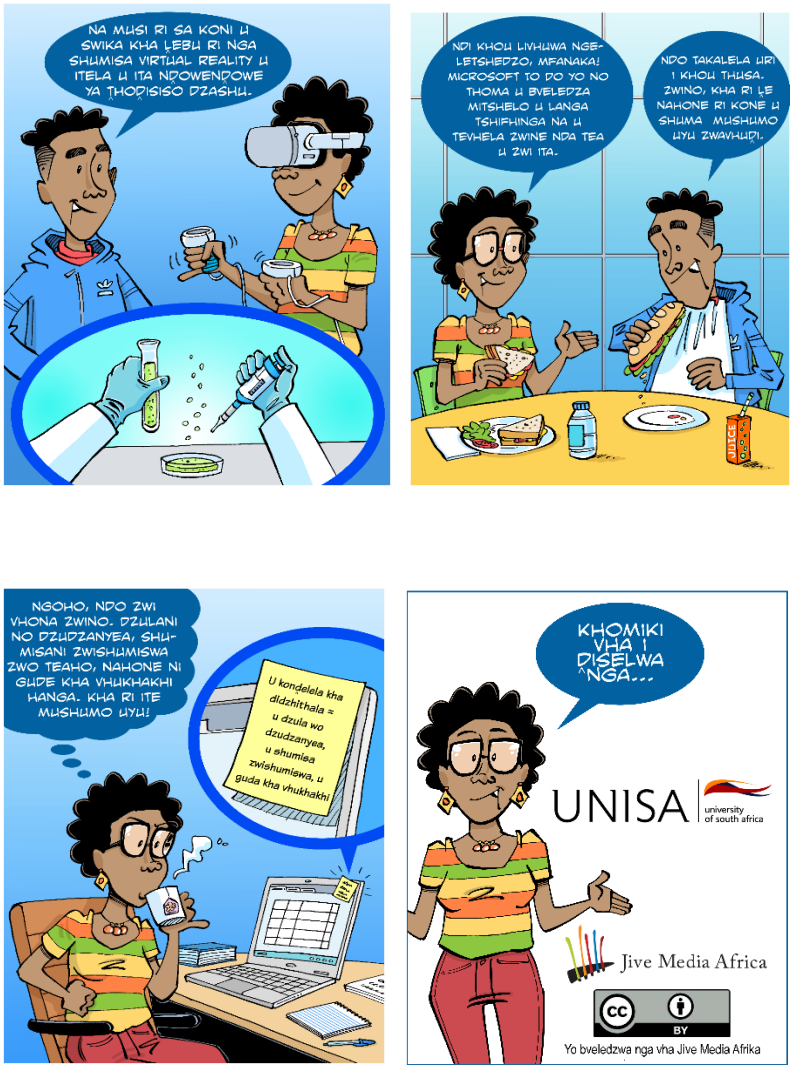
9 – Tshivenda Comic Strip on Student Digital Resilience

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NDI KHOU LIVHUWA NGE-LETSHEDZO, MFANAKA! MICROSOFT TO DO YO NO THOMA U BVELEDZA MITSHELO U LANGA TSHIFHINGA NA U TEVHELA ZWINE NDA TEA U ZWI ITA.
NDO TAKALELA URI ! KHOU THUSA. ZWINO, KHA RI ḼE NAHONE RI KONE U SHUMA MUSHUMO UYU ZWAVHUḌI.
NGOHO, NDO ZWI VHONA ZWINO. DZULANI NO DZUḌZANYEA, SHU-MISANI ZWISHUMISWA ZWO TEAHO, NAHONE NI GUDE KHA VHUKHAKHI HANGA. KHA RI ITE MUSHUMO UYU!
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KHOMIKI VHA I DISELWA ^NGA...
UNISA
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Jive Media Africa
BY
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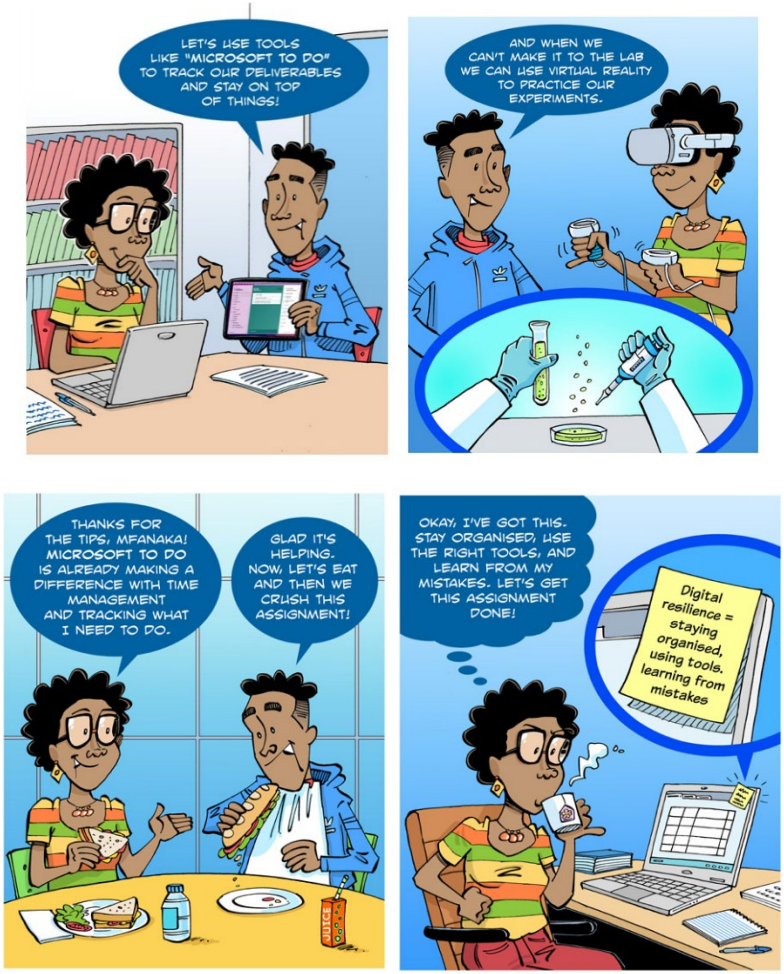
10 – English Comic Strip on Student Digital Resilience


LET'S USE TOOLS LIKE "MICROSOFT TO DO" TO TRACK OUR DELIVERABLES AND STAY ON TOP OF THINGS!
AND WHEN WE CAN'T MAKE IT TO THE LAB WE CAN USE VIRTUAL REALITY TO PRACTICE OUR EXPERIMENTS.
THANKS FOR THE TIPS, MFANAKA! MICROSOFT TO DO IS ALREADY MAKING A DIFFERENCE WITH TIME MANAGEMENT AND TRACKING WHAT I NEED TO DO.
GLAD IT'S HELPING. NOW, LET'S EAT AND THEN WE CRUSH THIS ASSIGNMENT!
OKAY, I'VE GOT THIS. STAY ORGANISED, USE THE RIGHT TOOLS, AND LEARN FROM MY MISTAKES. LET'S GET THIS ASSIGNMENT DONE!
Digital resilience = staying organised, using tools, learning from mistakes
JUICE

11 – Index

The following is an AI-generated index of keywords in this resource.

Term	Page(s)	Cross-reference/Notes
Academic Development Open Virtual Hub (ADOVH)	3	See also Digital Innovation
Academic Integrity	13, 41, 44	Related to Responsible AI Use
Accessibility Tools	26	Microsoft Immersive Reader
AI Assistant (Lwazi)	20, 36	
AI Bias	13, 44	
AI Ethics	41, 82	See Responsible AI
AI Literacy	17, 41	
AI Prompting	55-74	See Prompt Engineering
AI Role-based Interaction	66	See Prompt Engineering
AI Tools	23, 36, 81	Google Gemini, Microsoft Copilot
Algorithm Bias	44	
Application of AI in Education	23, 30	
Audio Replies	70	Related to Voice Prompts
Automated Studio	3	ADOVH Innovation
Chatbots	20, 36	
ChatGPT	29	Text Generative AI
Cloud Storage for AI Tools	81	Access Readiness
Comic Strips (Digital Resilience)	91, 93	isiZulu, Tshivenda

Contextual Prompting	56, 58	
Course Duration	19	8 hours total
Critical Evaluation of AI	13, 49, 51	
Cross-Platform AI Tools	36	Google, Microsoft
Data Privacy	13, 44	See Ethics
Deep Learning	13, 25	Neural Networks
Delivery Method	19	myStudentSkillsHub
Digital Competency	3, 5	Agenda 2063 focus
Digital Divide	5	
Digital Innovation Lab	3	Gaming & Streaming
Digital Literacy Skills	3, 81	
Digital Resilience	5, 91, 93	
Document Uploads (AI Context)	71	For Prompt Enhancement
Educational AI Applications	30	
Ethical Decision-Making	41, 82	Scenario Planning
Evaluation of AI Data	48, 49, 51	Activities provided
Explainability in AI	58, 67	Prompt Engineering
Fourth Industrial Revolution (4IR)	3, 5	
Gamification	3	Gaming lab
Generative Adversarial Networks (GANs)	25	
Generative AI	13, 23, 29	
Google Gemini	36	Cross-reference Microsoft Copilot
Human-AI Interaction	3, 20	Semi-humanoid Robot
Icebreaker (Lwazi)	20	
Immersive Learning	26, 30	VR training, Read Aloud

Instructional Language for Prompts	67	Use of academic verbs
Interactive AI Sessions	36	
Internet Access for AI	19	Requirements
Iterative Prompt Refinement	13, 67	See Prompt Engineering
Large Language Models (LLMs)	13, 17, 23	ChatGPT, Gemini
Learning Management Systems (LMS)	3	Moodle at UNISA
Learning Outcomes (Technical)	18, 23, 41, 55	
Machine Learning	25	Related to Deep Learning
Metadata and AI	44	Linked to Privacy
Microsoft Copilot	36	Cross-reference Google Gemini
Mobile Learning	3	Mobile-first approach
Model Limitations	49, 51	Bias in AI Outputs
Monitoring AI Outputs	82	Reflective Practices
Moodle LMS	3	
Multimodal Inputs (Text, Audio, Image)	13, 70, 71, 86	
Natural Language Processing (NLP)	13, 25	
Neural Networks	25	Deep Learning basis
Next Steps (AI Skill Growth)	77-80	
Online Course Access	15, 19	myStudentSkillsHub
Open Educational Resources (OER)	3	Creative Commons License
Open Virtual Hub (ADOVH)	3	See Academic Development

Personalised AI Learning	30	
Photosynthesis Prompt Examples	67	Role of Context
Post-Course Assessment	79	Quiz format
Practical Activities (Prompt Practice)	26, 32, 36, 51, 73	
Predictive Models	25	
Privacy Settings (AI Tools)	44	
Problem-solving with AI	58	Educational Application
Prompt Crafting Techniques	67	
Prompt Engineering	13, 55-74	Core Skill
Prompt Refinement	67	
Prompt Variability	59	Different Responses
Proctoring Technology	3	Mention in ADOVH Activities
QR Code for Enrolment	3	
Reflection Activities	79	
Responsible AI Use	13, 41, 44	
Responsible Data Use	44	
Role-based Prompting	66	Teacher, Editor, Counsellor roles
Safe AI Interactions	44, 58	Ethical Prompting
Scenario Planning for AI	82	Ethical Simulations
SDG 4 (Quality Education)	5	
Semi-Humanoid Robot Interaction	3	
Simulation in Education	3	VR, Metaverse
Smart Learning Environments	3	ADOVH Innovation

Student Skills Hub (Online Access)	15	
Sustainable Development Goals (SDGs)	5	
Syllabus Overview (Technical)	18	
Training Requirements (Technical)	19	
Transformer Models (GPT, BERT)	13, 25	
Tshivenda Comic Strip	93	
Types of Generative AI	29, 31	Text, Image, Music
UNESCO AI Guidelines	40	
Unisa myLife Access	19, 36	
Unisa Online Courses	15, 19	
User Access Readiness	81	
Virtual Reality Training	3	
Voice Prompting in AI	70	
Water Shortage Prompt Example	67	Context use
WhatsApp Education Use	3	
Workflow Automation with AI	81	Copilot tools
Workshop Activities (Self-Directed)	85	10 Activities
Youth Digital Literacy Training	3	

About the Tech-Ready Africa Open Knowledge Series

The Tech-Ready Africa Open Knowledge Series is a transformative educational initiative developed by the Academic Development Open Virtual Hub (ADOVH) at the University of South Africa. This open-access series provides freely available print and digital resources designed to build and accelerate digital competencies across the continent. The series addresses the critical need for inclusive and scalable digital skills development in the Global South by spanning foundational digital literacy to advanced skills in artificial intelligence and emerging technologies. Tech-Ready Africa seeks to empower a new generation of digitally fluent African citizens by equipping learners, educators, and communities with practical and forward-looking skills.

The Academic Development Open Virtual Hub (ADOVH) envisions itself as a leading incubator for digital innovation in teaching, learning, and student support within an open and distance e-learning (ODeL) environment. Anchored in a commitment to student success, ADOVH aims to build students' digital competencies, empowering them to thrive as confident, capable, and effective online learners. Funded by the Department of Higher Education and Training's University Capacity Development Programme, the Hub fosters inclusive, accessible, and future-focused academic development by leveraging emerging technologies and strategic partnerships.

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