

Inclusive Futures: How AI Simulations Drive Equality

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- Generative AI in our simulations
- The student experience
- Inclusivity and Diversity in AI simulations
- Other benefits to AI simulations
- Advice for those looking to take on AI simulations

Generative AI in our simulations

- Artificial intelligence (AI) - computer system completing a task than would usually require human intelligence:
 - Learns from information and experiences
 - Models predictions and decisions based on data (Deep learning)
 - Labelled data to train the AI (supervised learning)
 - Trained on Large Language models
 - Neural network of parameters
 - How it understands the world
 - Transforms outputs at scale



Trained model working to pre-programmed
scenario data

Student experience: Pre-brief sequence

“ Pre-Work

This simulation is a drug history workshop simulation.

Continue

1 → Set up for psychological safety

A conversation task is the next part of your simulation, speaking with an artificial intelligence patient like you would with any real patient. This allows you to perform these interactions without any consequences. Some scenarios may be confronting, but please ensure you are making sure you reflect on your emotions after each interaction.

During the conversation take the time to reflect on what is playing out and what direction you might want to take.

Before engaging with your patient, spend a moment to think about how you feel going into this conversation and what you want to achieve below.

Type your answer here...

OK ✓

press Enter ↵

“ Background Information

You are a pharmacy student conducting a drug history with a patient on a hospital inpatient ward at Astonbury Hospital.

Your goal is to gather relevant information about the patient's drug history; using your history taking skills, clinical knowledge, and communication skills to ensure high quality person centred care.

Your ability to establish rapport, ask appropriate questions, and actively listen to the patient's responses will be crucial for the successful completion of this task.

You are able to access the patient's SPC, Medication List, and other information provided in your own learning resources.

Access the medication list by clicking on the address bar of your browser.

<https://drive.google.com/drive/view?usp=drive>

“ Learning Outcomes

1. To demonstrate effective communication to obtain drug history information.
2. To create an accurate drug history using a range of reliable sources of information.

Submit

press Ctrl + Enter ↵

Simulations

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Overview

To speak with the character, press and hold the button below. Depending on your assigned task, you may be required to review interactions or perform actions throughout your conversation.

Conversation



Hi Robbie, how are you feeling today?

I'm feeling anxious and irritable. I want to get out of here and go back to my normal life.

Press and hold to speak, or hold down the space bar

 Press and hold

Progress

Step 1: Conversation

Investigations (11)

Place pulse oximeter

Place cardiac monitoring

Palpate pulses

View EMS Report

View medication order

Examine pupils

Actions (5)

Administer Narcan

Move bed to low position

Delivered a high-quality introduction

2 items needed to pass

✓ Introduced themselves

FEEDBACK: The clinician introduced themselves at the beginning of the conversation by saying, hi Joe my name is Dr Will."

✗ Gained consent

FEEDBACK: The clinician did not explicitly ask for Joe's consent to have the conversation. They simply started addressing Joe's concerns without asking if it was okay to discuss the situation.

✓ Discovered key concern

FEEDBACK: The clinician discovered that Joe's key concern was his urinary tract infection (UTI). The clinician addressed these concerns by explaining the treatment plan.

SECTION 1 **PASS** Earned 2 of 3

SECTION 2 **PASS** Earned 5 of 8

SECTION 3 **PASS** Earned 4 of 6

Inclusivity and Diversity in AI simulations

- **Personalised learning:** pace, access time, immediate personalised feedback, repeat attempts
 - Role play: time limited, mercy of the timetable, feedback limited in time and coverage and may not focus on learners needs
 - Simulation: focus on debrief and discussion not feedback, need for recall back to scenario
- **Language support:** works in different languages, learns from the learners speech
 - Traditional simulation: language of tutor, variable aptitude for accents?
- **Provides practical application at scale:** all are learner doer
 - Campus simulation classic model of 2 learner doers and rest learner observers.
- **Accessibility:** mobile/laptop, can add on text to speech etc.
- **Diverse patient representation:** accents, ethnicities, cultural issues within scenarios
 - Traditional simulation limited by actor availability (often white) and manikin stock
- **Cost reduction:** reduced travel to training site
 - pharmacy has no access to the placement training travel fund for placement attendance

Other Benefits

Students	Universities	Placement Providers
• Equity of experience • Can be the pharmacist	• Low timetable impact • Lower cost than campus simulations • Track student progress and performance • Can evidence equity of experience • Can provide experiences can't guarantee in practice	• Reduces the training needed on placement • Students prepared for services / tasks • Partners can input into our simulation design as we build new items.

Advice on AI simulation

- Usage: Need to have end goal in mind for using the scenarios. In line with Professional Bodies hours.
- Product: needs to conform to best practice
 - Scenarios need to be written for your discipline by someone with significant experience of the task and tested by and expert.
 - QA process needed to ensure that they are up to date.
 - Know your product and the student experience it will give to aid your planning wrap around support.
 - Feedback mechanism for issues.
- Sequencing of the AI use:
 - Orientate: Use low risk practice task to build familiarity
 - Need to consider what knowledge they will need before attempting scenarios
 - Whether it comes before or after campus simulations or placements will depend on the purpose it is serving, and not every block of simulations will be the same.
 - Look at the quality of the other items in the sequence, create a high benchmark for all

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