

HARMONY IN PROGRESS:

**INTEGRATING SCIENCE, TECHNOLOGY,
AND
SOCIAL INNOVATION
FOR SUSTAINABLE DEVELOPMENT GOALS**



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PSS005 - GLOBAL VOICES: AI PERSONA LAB (CONSUMER PERSONA CHATBOT)

Galvin Kuan Sian Lee

School of Diploma and Professional Studies, Taylor's College, Subang Jaya, Selangor, Malaysia

Corresponding author: Galvin.Lee@taylors.edu.my

ABSTRACT

Global Voices: AI Persona Lab is an educational innovation that transforms theoretical learning into dynamic, experiential simulations using AI-powered personas. Initially applied in a consumer behavior module in Malaysian higher education, the Lab enables students to interact with hyper-realistic AI chatbots representing diverse cultural, generational, and consumer profiles. These personas exhibit nuanced decision-making, emotional depth, and cultural authenticity, allowing students to practice inquiry-driven engagement in a low-stakes yet realistic environment. The platform integrates GPT-4o for natural language processing, ElevenLabs for voice synthesis, and Deepgram for speech-to-text, supporting unscripted, adaptive conversations. Grounded in Kolb's Experiential Learning Theory, the Lab guides students through insight gathering, analysis, strategy design, and virtual marketplace testing, fostering empathy, cross-cultural competency, and applied problem-solving. Its tool-agnostic, web-based design ensures accessibility and scalability across disciplines such as healthcare, tourism, and design. The innovation has yielded measurable improvements in student engagement and performance, positioning it as a adaptable, human-centered model for AI-enhanced education.

Keywords – generative AI, experiential learning, cross-cultural simulation, gamified pedagogy

INTRODUCTION

Global Voices: AI Persona Lab addresses the gap between theoretical instruction and real-world application in higher education. By using AI-driven persona simulations, it replaces passive learning with active, conversational engagement. Designed initially for consumer behavior courses, the Lab immerses students in interactions with diverse consumer archetypes, enhancing empathy, cultural understanding, and strategic thinking through dynamic AI responses.

OBJECTIVE

The primary objectives of Global Voices: AI Persona Lab are to:

- i. Transform passive knowledge consumption into active learning through authentic, AI-mediated inquiry.
- ii. Foster empathy, cross-cultural understanding, and advanced application of marketing and consumer behaviour theories.

- iii. Provide a low-barrier, scalable educational tool that requires no programming, hardware, or platform installation.
- iv. Enhance student engagement, learning outcomes, and reflective practice through a structured yet flexible experiential journey.
- v. Develop a model adaptable across disciplines where user, client, or stakeholder empathy is essential.

DESCRIPTION OF THE PROJECT

Grounded in Kolb's Experiential Learning Theory, the Lab follows a structured multi-phase learning journey powered by custom-engineered AI chatbots. Each persona is hosted on a web-based interface that integrates GPT-4o for natural language processing, ElevenLabs for lifelike voice synthesis, and Deepgram for accurate speech-to-text recognition.

These chatbots act as hyper-realistic consumer personas capable of engaging in unscripted, context-aware conversations that adapt to the student's line of questioning. Their responses incorporate individualised cultural values, behaviours, and emotional tones, simulating authentic consumer interviews in a safe yet unpredictable environment.

Students begin by interacting with the personas to elicit behavioural insights, then analyse the data using structured frameworks to build comprehensive consumer profiles. Based on these insights, they design products, campaigns, or strategies aligned with persona needs.

The journey also includes an immersive virtual marketplace simulation, where students present offerings to their persona and receive dynamic, persona-specific feedback, allowing them to test and refine their approach. Later phases focus on self-reflection and cross-cultural adaptation, encouraging students to adapt strategies for different markets.

The Lab is entirely web-based, requiring no coding skills or specialised hardware, ensuring ease of adoption across institutions.

NOVELTY

The distinctiveness of Global Voices: AI Persona Lab lies in its fusion of unscripted AI persona interaction, gamified decision-making, and cross-cultural simulations within a unified and adaptable platform. Unlike scripted roleplays, the chatbots provide unpredictable, nuanced responses that replicate the complexity of real-world interactions.

Its modular design ensures scalability across disciplines such as pharmacy, tourism, law, and design, while its adaptability allows it to evolve alongside advances in AI technology.

CONCLUSION

The Lab has demonstrated measurable success, with higher teaching engagement ratings and improved student performance. Students reported stronger theory application, greater cultural awareness, and increased confidence in managing real-world challenges.

With planned expansion through educator toolkits and adaptable persona modules, Global Voices: AI Persona Lab represents a future-ready, human-centred model for AI-enhanced education, bridging the gap between knowledge and practice in the digital age.