

BEYOND THE CLASSROOM: EXPLORING AI-SUPPORTED SIMULATION IN COUNSELLOR TRAINING

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INTRODUCTION

Counsellor training must prepare trainees for the complexities of real-world practice while supporting structured skill development, timely feedback, and reflective learning. However, repeated role-play and individualised feedback can be resource-intensive in traditional settings (Tanana et al., 2019).

As counselling increasingly moves to digital platforms, trainees must develop competence in online therapeutic engagement and the ethical use of emerging technologies (Barnett & Kolmes, 2016; Simpson & Reid, 2014).

AI-supported simulation offers a promising supplement: expanding access to practice, reducing evaluative anxiety, and enabling repeated, low-stakes rehearsal outside supervised sessions (Stade et al., 2025 ; Tanana et al., 2019).

Importantly, emerging evidence suggests that simulated practice appears most effective when paired with structured feedback. Louie et al. (2026) found that LLM-simulated practice combined with feedback produced significantly stronger skill gains than practice alone.

Despite growing interest, empirical evaluation of AI-based simulation and feedback platforms within applied counsellor education settings remain limited.

AIM

To evaluate an AI-based counselling simulation and feedback platform in supporting counselling skill development and attitudes towards AI among diploma-level counselling trainees in Singapore.

METHODS

Pre-Post Pilot Study • 4-Week Intervention • N = 10 (complete paired data)

Participants

Diploma-level counselling trainees aged 18–34 years enrolled in a Singapore higher education programme.

Intervention & Platform Use

Participants were introduced to the platform and encouraged to use it at home for additional practice. Use was self-directed — students chose when and how often to practice.

1–2 sessions	30%
3–5 sessions	50%
6+ sessions	20%

Measures

Counselling Skills: Counsellor Activity Self-Efficacy Scales (CASE; Lent et al., 2003) — a validated 41-item measure across 7 subscales.

AI Attitudes: 5-item scale assessing openness, perceived utility, and intention to continue using AI tools.

Qualitative: Open-ended reflection prompts exploring participants’ perceived benefits, challenges, and confidence-related impacts of using the AI assistant.

Analysis

Wilcoxon signed-rank tests (two-tailed; $\alpha = .05$) given the small sample. Effect sizes $r = Z / \sqrt{N}$. Qualitative responses analysed descriptively using thematic grouping.

QUANTITATIVE FINDINGS

Listening Skills

Wilcoxon p-value p = .008 <i>Statistically significant</i>	Effect size (r) r = .83 <i>Large effect (Cohen)</i>	Direction ↑ Pre→Post <i>All 10 improved</i>
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Listening skills improved significantly following the AI-supported practice period.

This finding is particularly relevant in a text-based context, where trainees must attend closely to written client disclosures and formulate empathic responses — core listening skills.

EXPLORATORY TRENDS (Non-Significant)

Moderate-to-large positive effect sizes across additional CASE subscales. These trends are exploratory and require replication with larger samples.

Restatements	r = 0.61
Self-disclosure for insight	r = 0.58
Role play & behavioural rehearsal	r = 0.55
Responding with appropriate helping	r = 0.52
Awareness of intervention intentions	r = 0.48

AI ATTITUDES

Students were already generally open to AI at baseline, limiting scope for significant attitudinal change over a short intervention. No significant shifts were observed; however, moderate effect sizes indicated modest positive movement:

AI can enhance counselling training	r = 0.53
Intention to continue using AI tools	r = 0.42
AI supported deeper reflection	r = 0.37

QUALITATIVE FINDINGS

Participant reflections offered insight into acceptability, learning value, and areas for refinement.

What participants valued

Participants valued repeated, low-stakes practice outside class. Several described the platform as helping them articulate responses, rehearse interactions, and use feedback to reflect on progress.

“It increased my confidence and gave me more opportunities to practise my counselling responses.”

Reflection and recalibration

AI-supported practice appeared to support more calibrated self-assessment, helping trainees recognise counselling complexity and their own strengths and limitations, which may explain why self-reported competence did not rise uniformly despite positive feedback on confidence, engagement, and practice value.

“It makes you realise what you know and don't know.”

Areas for improvement

Participants requested greater conversational realism, less repetitive responses, and more culturally varied client presentations reflecting Singapore's multicultural context. They emphasised that AI simulation should complement, not replace, human supervision.

INTEGRATION OF FINDINGS

Triangulation: Skill Development and Reflective Recalibration

Listening skills improved significantly → AI-supported simulation may support early counselling skill development

1 Students valued repeated practice, feedback, confidence-building, and reflection. Automated feedback likely directed attention to text-based listening cues, accelerating early skill calibration.

Non-significant positive trends across other counselling domains → AI practice may support reflective recalibration

2 Students became more aware of counselling complexity and their own limitations. AI practice may support reflective recalibration, not just perceived competence gains.

AI-supported simulation may provide a safe space for early counselling practice while helping trainees develop more calibrated self-assessment.

DISCUSSION & IMPLICATIONS

Value of self-directed AI practice

Findings support AI-supported simulation as a feasible, acceptable supplement for early-stage training. Students used it independently at home, extending practice beyond scheduled sessions. Its primary value may be a low-risk environment for rehearsal and feedback-driven reflection rather than broad competency gains in a brief period.

Feedback as the active ingredient

Consistent with Louie et al. (2026), practice combined with structured feedback — not practice alone — appears key. AI role-play should be paired with clear microskill objectives, feedback rubrics, and educator-led debriefing.

Contextual fit for Singapore

Future iterations should incorporate culturally responsive scenarios relevant to Singapore's multilingual, multiracial context to improve ecological validity and transferability.

Future Research Directions

Future research should examine whether AI-supported practice improves alignment between trainees’ perceived competence and observed counselling performance, using self-reports, assessor ratings, reflective logs, and supervisor feedback.

LIMITATIONS

- 1 **Small sample (N = 10)** Limits statistical power and generalisability. Exploratory trends should not be over-interpreted.
- 2 **Self-report outcomes only** CASE measures perceived self-efficacy, not observed performance. Future work should include supervisor-rated assessments.
- 3 **No control condition** Pre-post design cannot rule out maturation, concurrent learning, or expectation effects.
- 4 **Variable platform exposure** Self-directed use (1–6+ sessions) creates heterogeneous dosage; dose-response cannot be established.

PRACTICAL RECOMMENDATIONS

- 1 Use AI simulation as a supplementary tool — not a substitute for human supervision or live role-play.
- 2 Pair AI role-play with explicit microskill objectives and structured feedback rubrics for each session.
- 3 Integrate guided reflection and tutor-facilitated debrief into the AI practice cycle.
- 4 Develop culturally varied, realistic client scenarios relevant to Singapore's multicultural context.
- 5 Evaluate future implementations using observed counselling performance, not self-report alone.

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