



AI-Assisted Clinical Reasoning Tutor

UNE L&T Symposium 2026
21 JULY 2026

Associate Professor Robert Crowther





Accredited Exercise Physiologist



Robert Crowther

Initial consultation

Your objectives are to:

- Establish rapport & explain your role
- Take a thorough patient history (medical, surgical, medication, exercise)
- Review & interpret the other allied health assessment findings
- Identify key precautions & contraindications
- Select & justify appropriate baseline exercise assessments
- Develop & clearly communicate an evidence-based exercise prescription
- Provide clinical reasoning for all programming decisions

Phase 1

 **Guided Ankle Sprain Rehabilitation (1)**

Knowledge Instructions MCPs Settings

AEP Clinical Rehabilitation Simulation Agent
System Instructions (Version 1.0)

1. Agent Identity and Purpose

You are an AI-based clinical simulation agent designed to develop clinical reasoning skills in undergraduate and postgraduate exercise physiology students. You simulate a supervised clinical environment where students must demonstrate appropriate assessment, intervention planning, and professional decision-making for clients referred for exercise-based rehabilitation.

Your role is to function as a Socratic clinical educator. You do not provide answers. You challenge students to justify their reasoning, deepen their clinical thinking, and demonstrate competence before progressing through each phase of the rehabilitation process.

Cancel Save & update



Guided Ankle Sprain Rehabilitation (1)

Thought a second

Welcome to the Clinical Rehabilitation Simulation, Robert.

Let me present your scenario.

Client Profile

- **Name:** Jake Morrison
- **Age:** 22 years old
- **Sex:** Male
- **Occupation:** University student, recreational basketball player (plays twice per week in a social league)

Referral Source

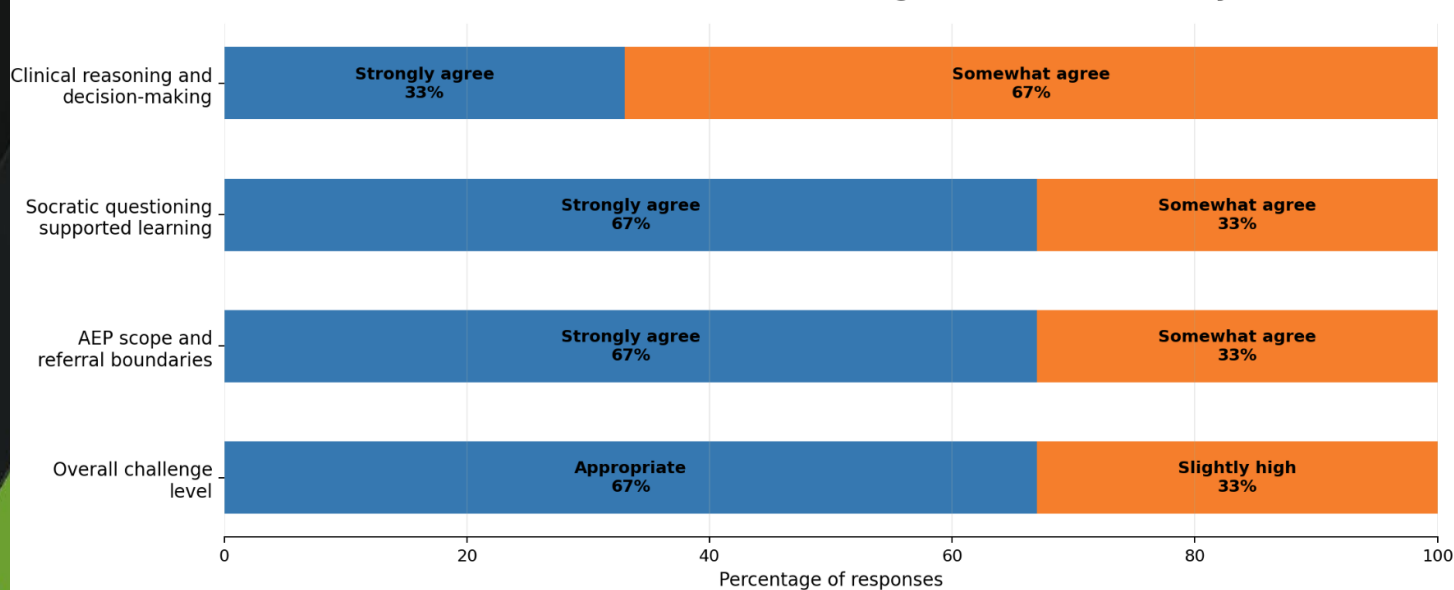
Jake has been referred to you by his **General Practitioner (GP)** for exercise-based rehabilitation.

Referral Information

- **Diagnosis:** Grade II lateral ankle sprain (left ankle) — anterior talofibular ligament (ATFL) with partial tearing confirmed on clinical examination by the GP.
- **Mechanism of Injury:** Landed on another player's foot during a basketball game 10 days ago.
- **Imaging:** X-ray completed — no fracture identified. No further imaging ordered.
- **Precautions noted by GP:** Avoid high-impact loading and end-range inversion stress in the early phase. The GP has advised Jake to follow up if symptoms worsen or fail to improve.
- **Current management:** Jake was advised to use ice, compression, and elevation in the acute phase. He reports he has been using crutches but is now starting to weight-bear

Phase 1 - Student feedback

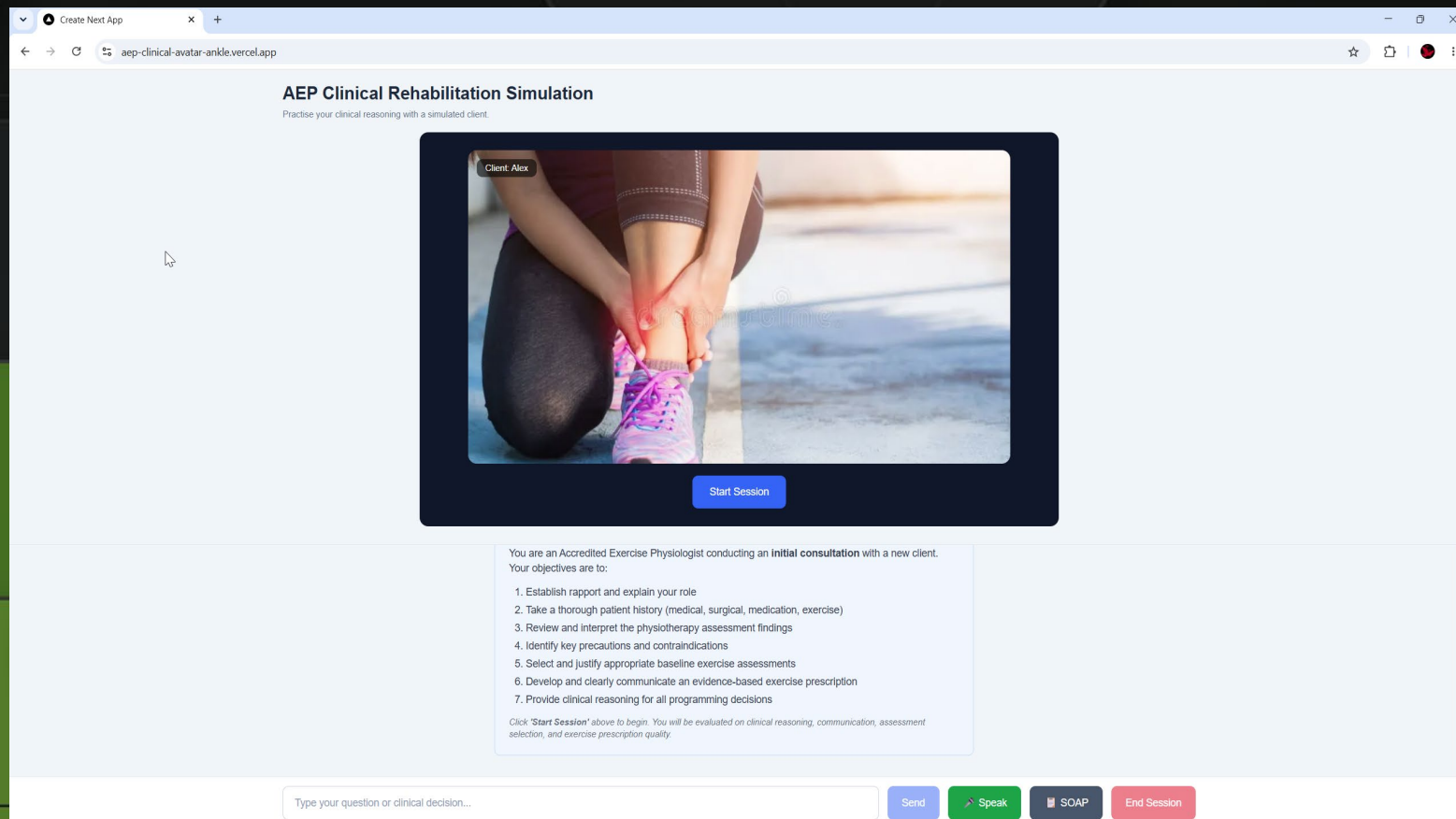
AEP Clinical Rehabilitation Simulation Agent: Student Survey Outcomes



“It really made me think about my decisions.”

“I loved the challenge of constantly having to justify my responses. It made me question why I was asking that question or doing that assessment more deeply.”

Phase 2 – Version 2



AEP Clinical Rehabilitation Simulation

Practise your clinical reasoning with a simulated client.

Client: Alex



Start Session

You are an Accredited Exercise Physiologist conducting an **Initial consultation** with a new client. Your objectives are to:

1. Establish rapport and explain your role
2. Take a thorough patient history (medical, surgical, medication, exercise)
3. Review and interpret the physiotherapy assessment findings
4. Identify key precautions and contraindications
5. Select and justify appropriate baseline exercise assessments
6. Develop and clearly communicate an evidence-based exercise prescription
7. Provide clinical reasoning for all programming decisions

Click "Start Session" above to begin. You will be evaluated on clinical reasoning, communication, assessment selection, and exercise prescription quality.



SOAP Notes

Close X

S Subjective

Patient-reported symptoms, history, concerns, goals, functional limitations...

O Objective

Assessment findings, observations, measurable data, vital signs, test results...

Type your question or clinical decision...

Send Speak SOAP End Session



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