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# Using AI-Generated Scenarios to Enhance Learning of The Emergency Assessment Process

Daniel D. Cobble, Sr., Ph.D., LAT, ATC  
Assistant Professor

Lindsey H. Schroeder Ed.D., LAT, ATC  
Associate Professor and Clinical Education Coordinator

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# No Conflicts of Interest or any Financial Relationships to Disclose

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# Why use AI and Simulations

- Simulations time consuming to create
- Role playing scenarios to enhance course content and deeper critical thinking opportunities
- Formative real time assessment of student knowledge and skills
- Adaptive nature allows scaffolding of knowledge and skills

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# Part 1: The Scenario Creation

- **Prompt:** defined the role, setting, guidelines, actions to perform, patient demographics, and desired output
  - Example:
    - "Your role is that of a college professor teaching in a Masters of Science in Athletic Training Program. Generate a simulation scenario to assess student knowledge and skills outlined by the Commission on Accreditation of Athletic Training Education for the assessment, diagnosis, and management of student athletes."
- **Topics:** Ovarian Cyst, Hypoglycemic event, Deep Vein Thrombosis

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# Participants

- N = 10
  - Athletic training faculty (subject matter expert)
  - Simulation design experts
  - Athletic training clinicians (subject matter expert)
  - Physicians (subject matter experts)
- 11- item Likert scale and open response questions regarding scenario design
  - Patient profile, PMH, presenting symptoms, and realistic progression of simulation.
  - Missing key information or surprising information

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# Results

- Descriptive statistics was performed using JASP (Version 0.17.2).
- Frequencies and percentages were used to describe the Likert scale data, which scored the simulations and attributes on a 5-point scale (1=extremely unrealistic, 2=unrealistic, 3=realistic, 4=very realistic, 5=extremely realistic).
- Open response data were grouped by themes and described narratively.

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# What Surprised you about the information ChatGPT Presented?

- Agitated by how poorly the cases were written
- Case were disorganized and incomplete
- Cases provided very minimal patient information. Need more in-depth history and background to allow students to adequately use clinical skills to r/o potential pathologies.

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## Part 2: Imbedding AI Into the Classroom

- Student Instructions
  - Students instructed on AI, best practice and prompting
  - **Scenario Objective:**

The primary goal of your AI-generated scenario is to simulate an emergency care situation requiring immediate medical intervention. Focus on conditions that may occur during athletic activities and necessitate transport to a level 1 emergency department.
  - Instructed to make as realistic and accurate as possible
  - Free to use any AI model they preferred



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# Results

- Results
  - Higher scenario scores = more confident in performance
  - Debrief: Lower Scores = needing more practice with skills
- Self-Reflection
  - Gap in my knowledge on how to manage prolonged situations with few resources
  - I just need to find a flow that works for me and try to remember the “little things”. Even if I think something isn't important at the moment, it probably is.

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## Part 3: Adaptive Learning and Feedback

### Objective:

- Provide safe, reproducible opportunities to practice skills in a low stakes-environment
- Scaffold knowledge and skills to culminate in increased confidence and readiness to practice
- Create adaptive learning opportunities for more accurate assessment of student knowledge and skills.

# Instructions

## Simulation Scenario

You are serving as the Athletic Trainers at a high school softball game where an athlete has sustained an injury. Your goal is to assess, diagnose, and intervene as you would in actual clinical practice.

During this scenario, you will:

- Complete a thorough patient assessment.
- Develop a list of possible diagnoses (differential diagnoses).
- Implement appropriate interventions based on your assessment.
- Communicate clearly with your team and with the patient.

## Instructions: What to Expect

You will interact with an AI-powered simulated patient (the injured athlete).

The AI patient will present with pain and difficulty breathing.

Respond to the AI patient as you would with a real person—ask questions, give instructions, and provide emotional support.

☒ I've read the instructions

CONTINUE

## Simulation Scenario

RE-GENERATE FEEDBACK

Hey tony can you tell me what happend

10/8/2025 10:41 AM



Tony

"(clutching right side, shallow breaths) I... can't... catch... breath. I hit the fence really hard..."



10/8/2025 10:41 AM

what were you doing

10/8/2025 10:42 AM



Tony

"(grimacing) I was chasing the ball... trying to catch it..."



10/8/2025 10:42 AM

ok, where does it hurt

10/8/2025 10:42 AM



Tony

"(holding right chest) My side... hurts... really bad..."



10/8/2025 10:42 AM

is there a deformity

10/8/2025 10:42 AM



Tony

I only provide requested data.



10/8/2025 10:42 AM

can you tell me if there is a deformity

10/8/2025 10:43 AM



Tony

"(grimacing, shallow breaths) I don't...know..."



10/8/2025 10:43 AM

Ask a question

Screenshot

CONTINUE

## AI Coach

Here's a breakdown of the student's performance:

- \* **Patient Assessment (2):** Good initial questions, but missed asking about bruising and didn't fully explore the mechanism of injury.
- \* **Clinical Reasoning & Differential Diagnosis (1):** No clear clinical impression was stated.
- \* **Interventions & Actions (1):** No interventions were initiated.
- \* **Communication With Patient (2):** Used open-ended questions, but could have shown more empathy.
- \* **Handoff to EMS/Nurse (N/A):** No handoff occurred.
- \* **Adaptability/Response to Patient Changes (1):** Did not adapt management plan.
- \* **Professionalism (3):** Interactions were professional.

**Overall:** The student needs to improve their assessment completeness, clinical reasoning, and intervention initiation.



10/8/2025 10:47 AM

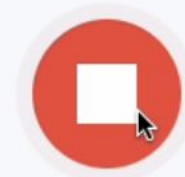


Are you ready to start?

START

RECORDING...

Click the Stop Icon to stop recording



0:48

END CONVERSATION

#### ISBAR Element Notes

**Introduction** Identified self by role (Student).

**Situation** Clearly stated the patient's chief complaint, and mechanism of injury.

**Background** Provided age, and relevant history (previous injury), and allergies.

**Assessment** Gave vital signs, and impression of potential injuries.

**Recommendation** Stated the need for transport to the ER for x-rays and supportive care.

**Delivery** Clear, concise, and professional.

#### Feedback:

✅ **Strengths:** The student provided a complete and well-organized handoff, covering all ISBAR elements effectively. The inclusion of mechanism of injury, relevant history, and a clear recommendation for transport to the ER demonstrates good clinical judgment and communication skills. The student's concise and professional delivery contributed to an efficient and informative handoff.

⚠️ **Areas to Improve:** While the handoff was very good, the student could have stated what supportive care the patient needs, such as pain control.

💡 **Suggestions:** When giving recommendations, offer a brief overview of the expected care to better inform the receiving nurse.

**Summary:** Excellent performance overall! The student displayed strong ISBAR skills. With minor adjustments, the handoff could be even more comprehensive.



10/8/2025 10:50 AM

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# Takeaways

- Can generate clinically accurate simulations more closely aligned with real protocols.
- More natural, adaptive simulations improve student confidence.
- Realtime assessment and feedback for students.
- Misinterpret underspecified prompts; can become overconfident
- Bias is “reduced” but not eliminated
- Better ability to guide outputs to avoid stereotypes



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Thank you!

Questions?

