

Exploring the Future of Medical Education: AI Chatbots as Future Pedagogy

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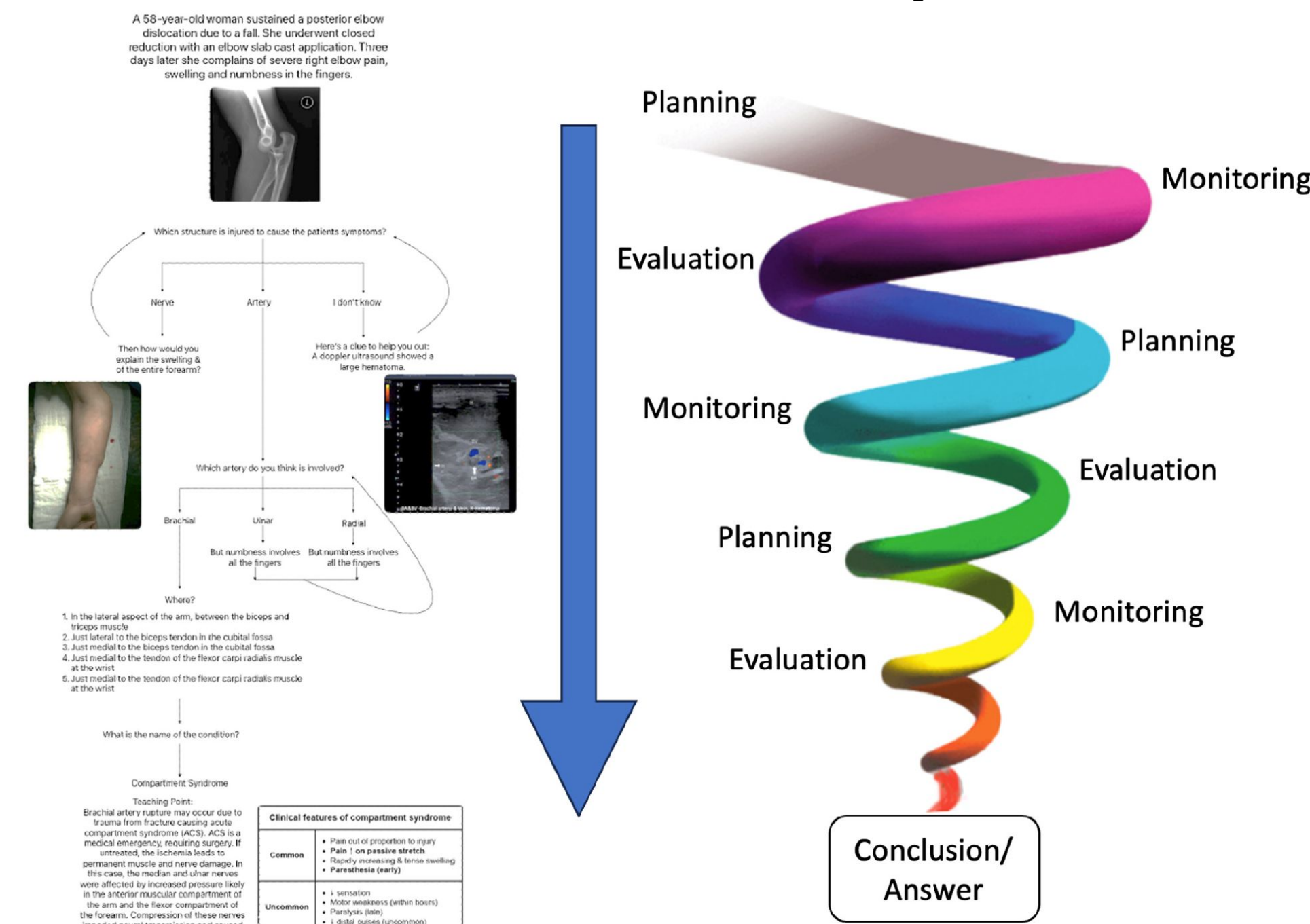
Introduction

- Education has consistently been evolving alongside the advent of new technologies
- Recent advancements such as AI will have an exponentially large impact on society and the domain of education will be no different.
- Working with the next generation who are digital natives will necessarily include technology for them and their future
- Educational experiences that are active, contextual, integrated and student-owned leads to deeper learning.
- Major contemporary challenges facing medical education include but is not limited to
 - Student to faculty ratio
 - Short attention spans and rote learning
 - Peer engagement – relying on the skilled other
 - Engagement of metacognitive skills

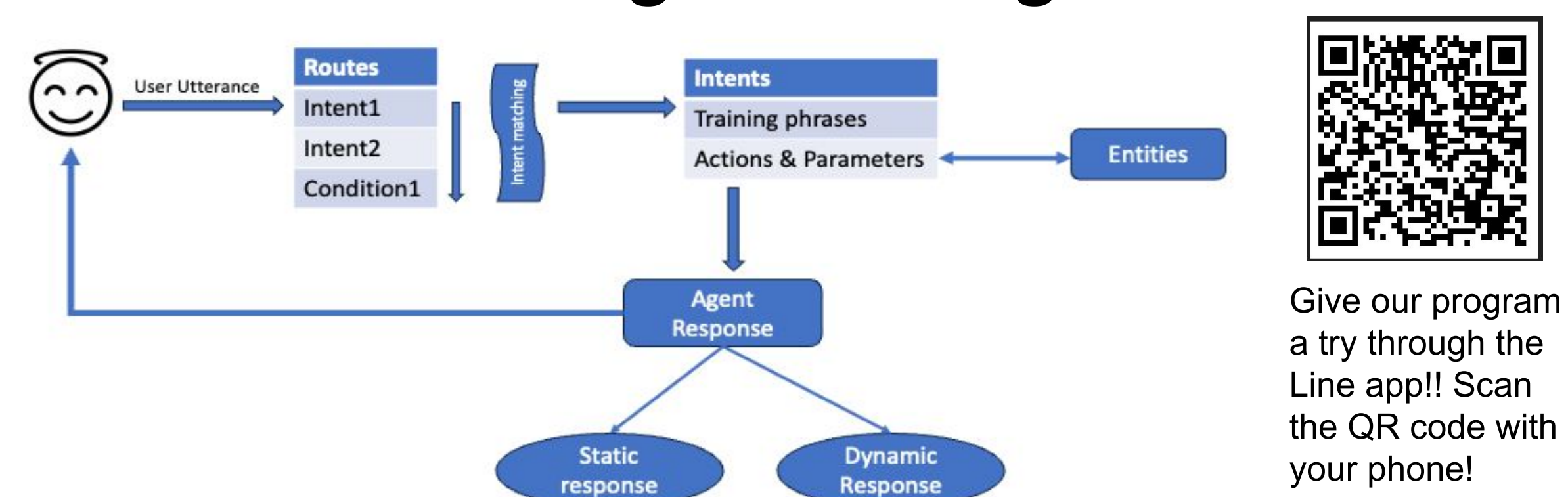
Aims and Objectives

- **Main Aim:** Develop students into independent lifelong learners by developing Higher Order Thinking [HOT] skills through metacognition
- **Objectives:**
 - Create an AI Chatbot for self-paced learning and developing HOT skills
 - Discuss how AI chatbots can promote active learning and metacognitive skills
 - Identify the challenges in creating the AI Chatbot

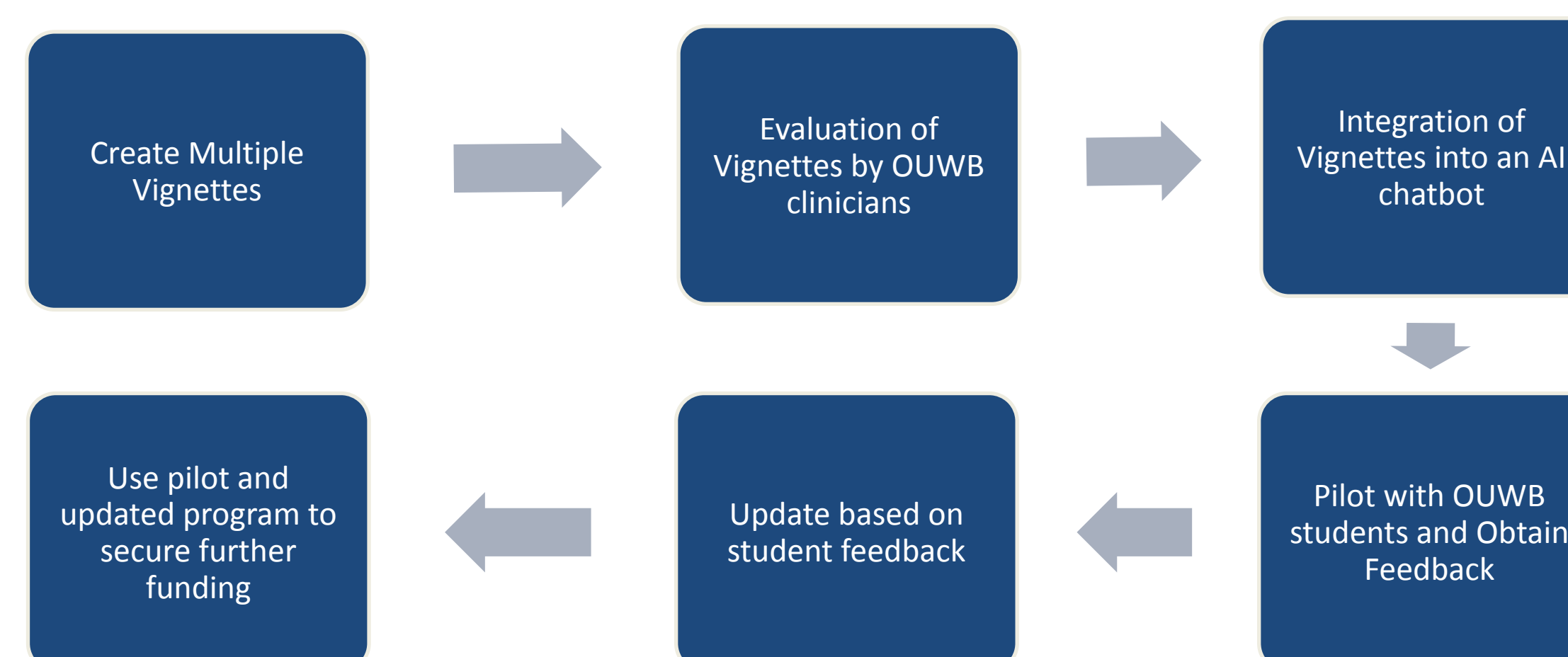
AI Decision Tree - Example Case



AI DialogFlow CX Agent



Approach and Evaluation Plan



Expected Results

- Future students will be able to better navigate the complexities inherent in the medical field
- Engage with complex material at a deeper level
- Utilize the in-built scaffolding the AI chatbot provides to develop nascent knowledge for lifelong learning
- Interacting with the AI Chatbot is akin to a virtual facilitator
- Occurs in a safe and self paced learning environment

Discussion

- The next generation of medical students are digital natives and and AI Chatbot meets their learning preferences and needs
- Chatbots positively impact student engagement, learning outcomes, and educational experiences
- Collaboration with experts and utilization of appropriate AI tools helps avoid common mistakes (e.g. hallucinations)
- Integration of asynchronous, self-paced, and iterative AI Chatbots will likely result in more personalized and adaptive learning among medical students.

References

- Please see for full citations and further information related to the integration of iterative AI Chatbots within medical education.
- Taranikanti, V. & Davidson, C.J. Metacognition through an iterative anatomy AI chatbot: An Innovative playing field for education the future generations of medical students. *Anatomia* 2023, 2, 271-281.