CANADIAN ATHLETIC THERAPISTS ASSOCIATION

WORLD FEDERATION OF ATHLETIC TRAINING & THERAPY

# Technology Enhanced Teaching in Athletic Training & Therapy

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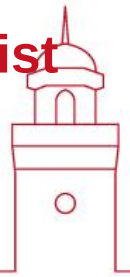


ACADIA UNIVERSITY

# Disclosures and Conflicts of Interest

- Member of the WFATT Board of Directors and Executive Committee
- Member of the Canadian Athletic Therapists Association and the Atlantic Provinces Athletic Therapists Association
- AT Program Director at Acadia University
- AT Educator and Researcher

- The content and information presented herein is my own and free from personal conflicts of interest.

# Disclaimers

- This presentation is not advocating for the use of technology to replace in-person teaching or in-person assessment/rehab
- This presentation is not advocating for the use of a particular piece of technology
- Rather, we will discuss ways to enhance teaching, learning, and our clinical practice through the use of technology

# We Are ALL Educators

- Some of you may think how does this relate to me? I don't teach in a formal academic setting…

- As health professionals, we are all educators. Important principles from this presentation can help improve our clinical practice and how we interact with our clients

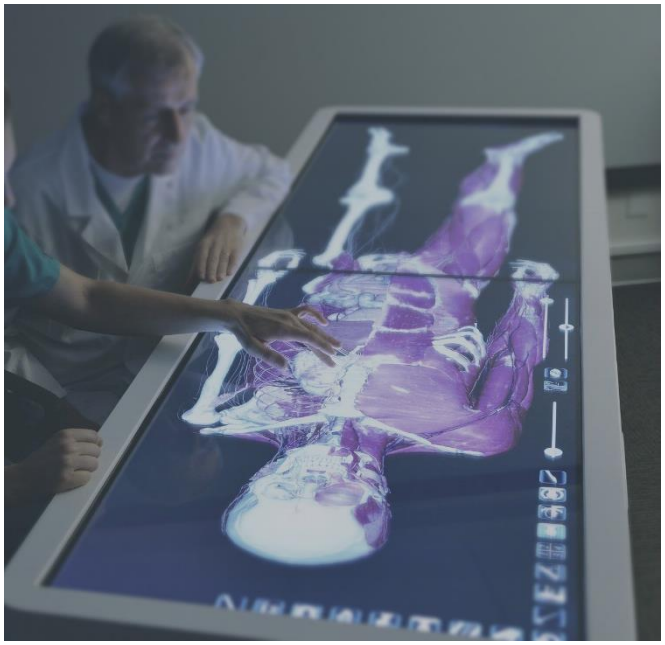
# What Does it Mean to be an Effective Educator/Clinician?


No matter what, we never want to lose sight of these important attributes

# Why Should We Consider Using Technology for Teaching/Educating?

- Expectations from students/patients
- Engagement/Motivation
- Simulation
- Demonstration
- Digital literacy

- Engage students in activities that promote clinical reasoning and critical thinking
- Evaluating/Tracking Competencies
- Programmatic Assessment
- Facilitate and enhance student reflection
- Add objectivity to our clinical practice

# What Does Teaching with Technology Look Like?

# What Teaching with Technology Actually Looks Like

- Teaching with technology is not about the technology itself, but rather a mindset of effective technology integration

- When wanting to integrate technology into your practice, you should always ask yourself “what is my educational why? Why am I using this technology and how can it be used to enhance my teaching?”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Globalization of Athletic Training & Therapy

ORIGINAL RESEARCH

# Signature Pedagogies in Athletic Therapy Education

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**Context**: Developing an understanding of the signature pedagogies in athletic therapy education may help to promote greater pedagogical development opportunities and encourage meaningful reflection for educators.

**Objective**: To gain an understanding of the perceived level of pedagogical knowledge in Canadian athletic therapy educators and how they developed such knowledge.

**Design**: Sequential explanatory mixed-methods.

**Setting**: Seven undergraduate Canadian Athletic Therapists Association–accredited institutions

**Patients or Other Participants**: Twenty-one athletic therapy educators (16 women, 5 men) responded to the initial questionnaire; 15 athletic therapy educators (11 women, 4 men) participated in individual phone interviews.

**Main Outcome Measure(s)**: An initial questionnaire was designed to explore general pedagogical knowledge in athletic therapy educators and how familiar participants were with different teaching strategies. Emergent trends from these questionnaires were used to design a specific interview schedule. Phone interviews further explored the institutional, personal, student, and cultural factors that affected the selection of different pedagogical approaches. Findings from the questionnaires and interviews were combined to identify participants' pedagogical approaches to teaching in an athletic therapy setting.

**Results**: A pedagogical distinction was observed, dividing the sample into 2 groups. One group used a traditional, passive lecturing format, and the other, more innovative pedagogies. Educators who followed traditional teaching practices were less likely to know about different pedagogies or understand how these strategies could contribute to more effective instruction. The other group of educators appreciated the use of different pedagogies and explained how different teaching strategies could be incorporated to enhance learning in the athletic therapy curriculum.

**Conclusions**: On the basis of these findings, Canadian athletic therapy educators would benefit from more formalized pedagogical training and/or development. These formalized opportunities could familiarize educators with innovative pedagogical strategies while also preparing them with the necessary skills required to self-evaluate their own teaching approaches.

**Key Words**: Pedagogy, pedagogical development, innovative teaching strategies

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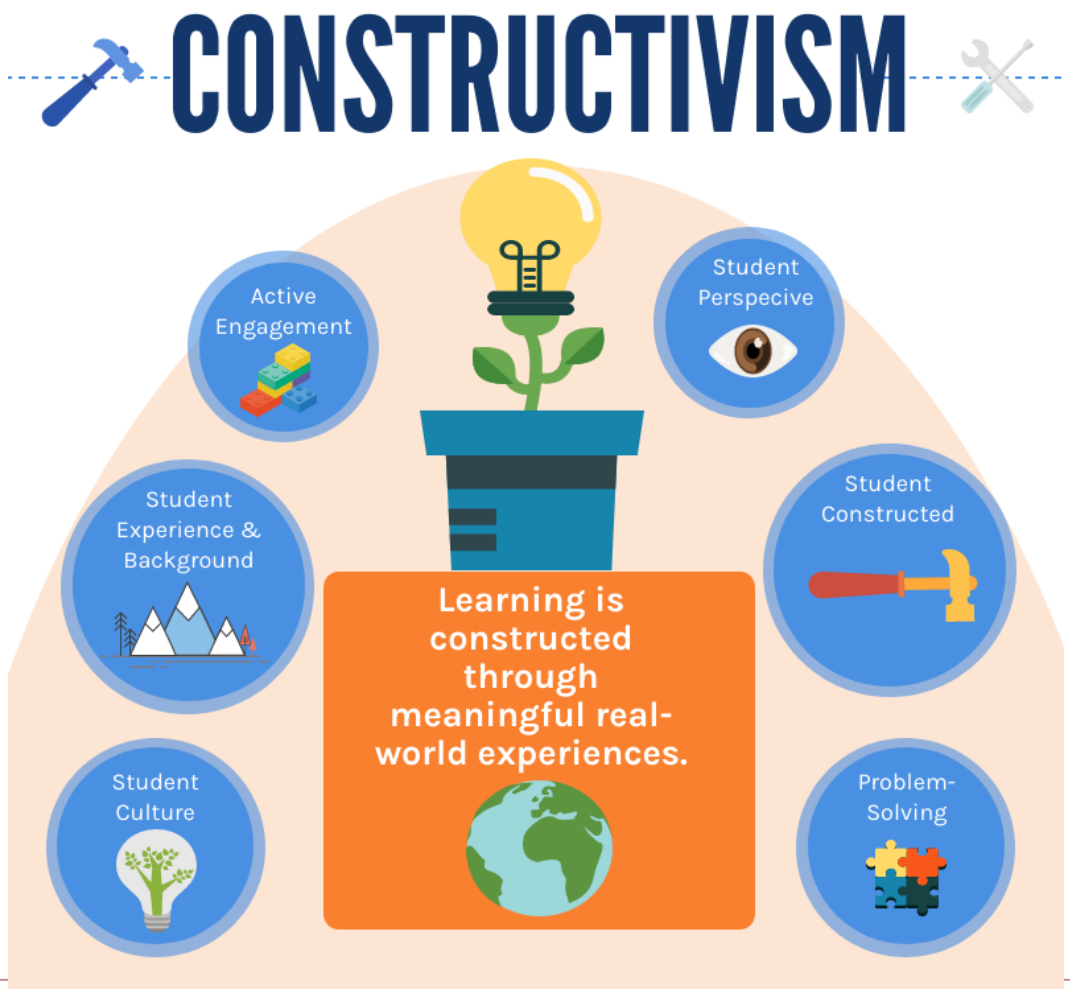
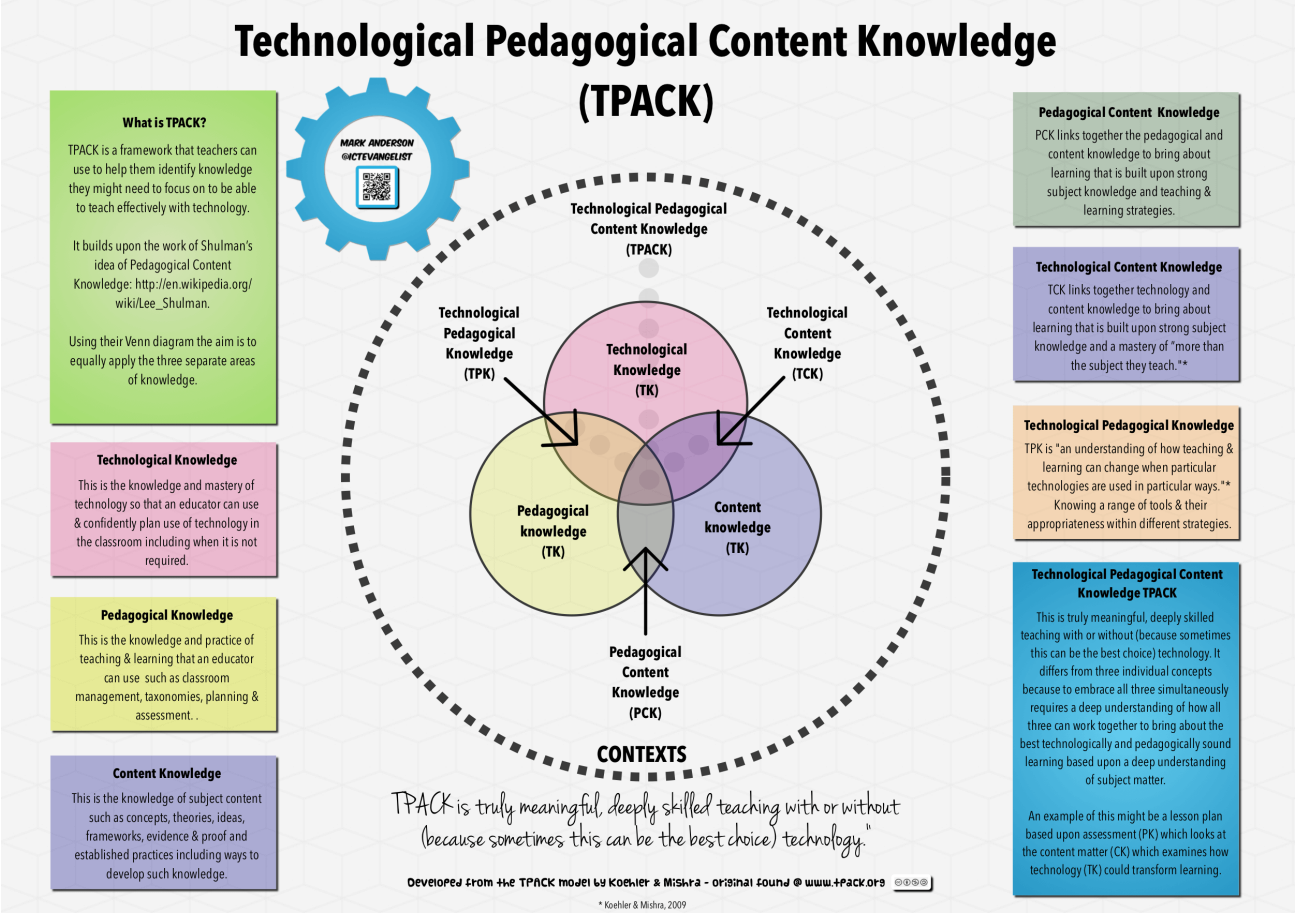
# Impactful Educational Philosophy Quotes

- “I hear and I forget, I see and I remember. I do and I understand.” – Confucious
- “If we teach today as we taught yesterday, we rob our children of tomorrow.” – John Dewey
- “Technology is just a tool. In terms of getting the kids working together and motivating them, the teacher is most important.” – Bill Gates
- “Technology will never replace great teachers, but in the hands of great teachers, it’s transformational.” – George Couros

# Educational Theories Related to Teaching with Technology



# Educational Theories Related to Teaching with Technology



# Educational Theories Related to Teaching with Technology

# Guiding Principles for Teaching with Technology Effectively

1. Adding value
2. Pedagogical Focus
3. Quality
4. Sustainability
5. Accessibility
6. Scalability
7. Provide Choice
8. Customization

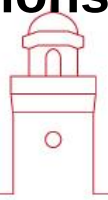
# Practical Example: Polling Software

**Educational "Why"** – to engage and individualize the learning experience for students in large classes

# Practical Example: Polling Software

- TopHat (student subscription required)
- Pollev.com
- Mentimeter.com (teacher subscription required)
- Micropoll

- Different ways to use polling software
  - Assess student performance
  - Assess patient knowledge (e.g. nutritional strategies that aid in healing)
  - Identify trends in the class
  - Participation/attendance
  - **Assess prior knowledge to guide future lectures/sessions**



# Practical E ucation

- **Educati** search identifie in knowled providin initial throughc recognit

## An Action Research Approach to Designing the Athletic Therapy Interactive Concussion Educational Tool

Colin King,[1] Acadia University, Canada
Loriann Hynes, York University, Canada

*Abstract: Recent research has demonstrated the amount of variability and lack of standardization in recognizing, assessing, and managing concussions in many different healthcare professions. These findings suggest that there is a need for educators in these professions to critically analyze how they currently teach about concussion assessment and management, while exploring effective pedagogical strategies that could help to improve concussion care. The purpose of this study was to demonstrate how we used an action research approach to identify gaps within concussion assessment and management knowledge in a sample of athletic therapy students, and to use these findings to design an interactive concussion educational tool that integrated various technologies and pedagogical strategies throughout contextually authentic concussion scenarios.*

*Keywords: Concussion Care, Educational Technology, Innovative Pedagogy, Health Professional Education*

### Introduction

Recent research has identified significant gaps in concussion assessment and management knowledge in many different groups of health professionals, including athletic trainers (Lempke, Schmidt, and Lynall 2020), emergency medicine residents (Haider et al. 2018), family medicine residents (Mann et al. 2017), and physiotherapists (Yorke, Littleton, and Alsalaheen 2016). These results demonstrate a need for newer approaches to concussion education while encouraging educators to reflect on the scope of practice of their respective professions, the unique characteristics of their educational context, and effective pedagogical strategies for improving the ways that health professionals learn about recognizing and managing concussions. Responding to these gaps in the literature, we designed this current research project to explore the following questions: what is the perceived level of concussion assessment and management knowledge in athletic therapy students? How do athletic therapy students currently learn about concussion assessment and management? Finally, what improvements can be made to enhance concussion education within an athletic therapy context? Within this manuscript, we show how an action research approach was employed to use research findings to inform the design of an interactive concussion educational tool for athletic therapy students. This tool, known as the Athletic Therapy Interactive Concussion Educational Tool (AT-ICE), was designed to engage students in realistic and interactive concussion scenarios, based on feedback from current athletic therapy students.

#### *Identifying the Problem: Concussion Care in Athletic Therapy*

Athletic therapists (or Athletic Trainers as they are known in the United States) are healthcare professionals that adhere to the Sports Medicine Model of Care (Canadian Athletic Therapists Association, n.d.). These professionals treat a wide range of patients, ranging from children with concussions to seniors recovering from hip replacement surgery, by using various manual therapies, modalities, exercise prescription, and bracing/taping (Canadian Athletic Therapists Association, n.d.). In many sporting environments, athletic therapists are the first responders on site to recognize and identify athletes with suspected concussions (Broglio et al. 2014).

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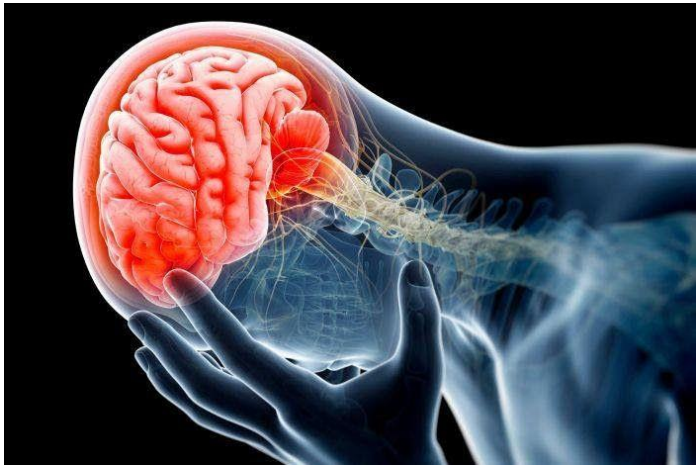
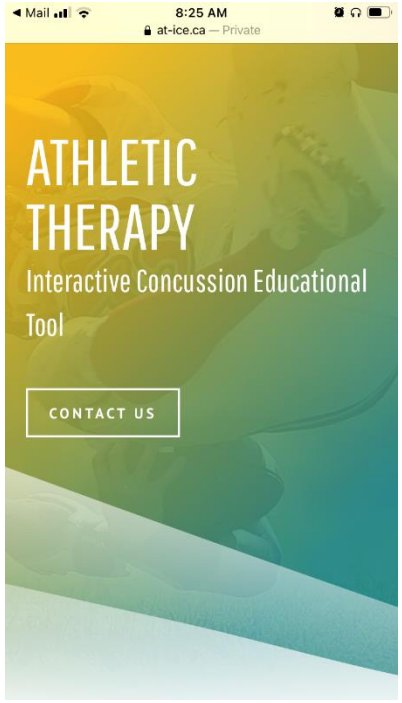
COMMON GROUND

# Practical Example: Concussion Education

- Athletic Therapy Interactive Concussion Educational Tool (www.at-ice.ca)





# Practical Example: Developing Cultural Sensitivity

- CATA Competency Framework has several competencies associated with cultural sensitivity [e.g. Use effective communication strategies (i.e., cultural competence, situational awareness, and timelines) to build rapport and trust with the patient].

- **Educational "Why"** – in our area, students do not get many opportunities to work with culturally diverse settings. Technology is used to simulate these experiences for students so they can think about how they would respond in these situations.

# Practical Example: Developing Cultural Sensitivity

- **Cultural Sensitivity** – skills that permit us to learn about/from and understand others who come from a different cultural background

- Developed online modules that students work through to help enhance their cultural awareness and sensitivity

# Practical Example: First Person Video Instruction/Demonstration

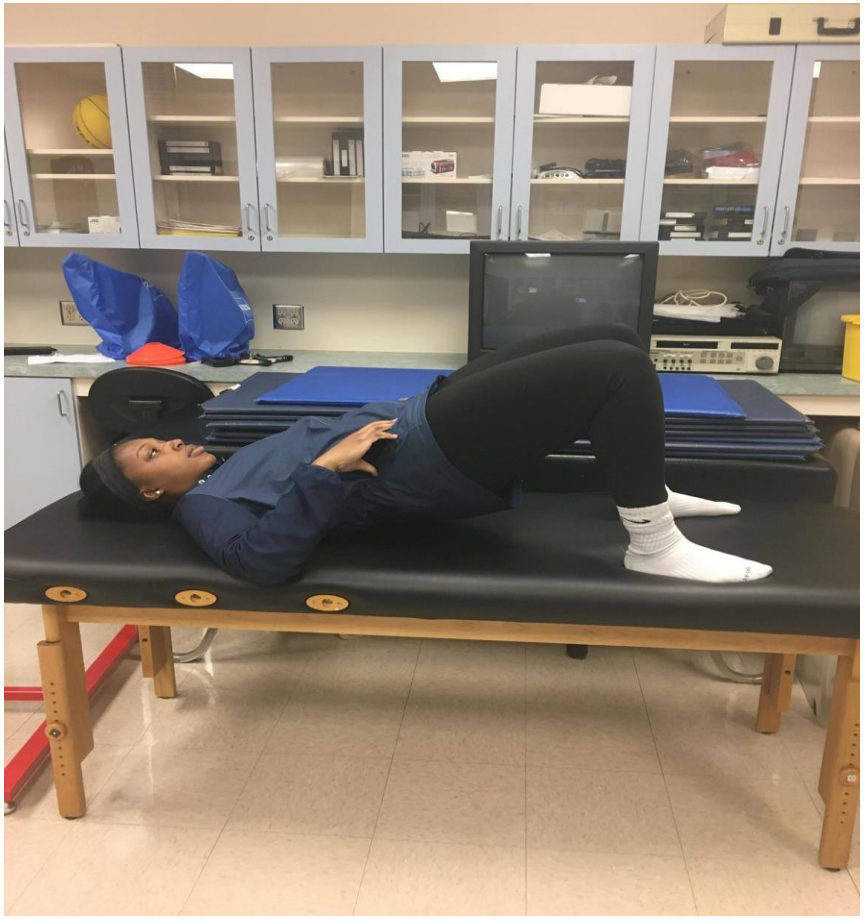
- **Educational "Why"** – to help students learn skills by showing them techniques in the point of view that they see when completing them.

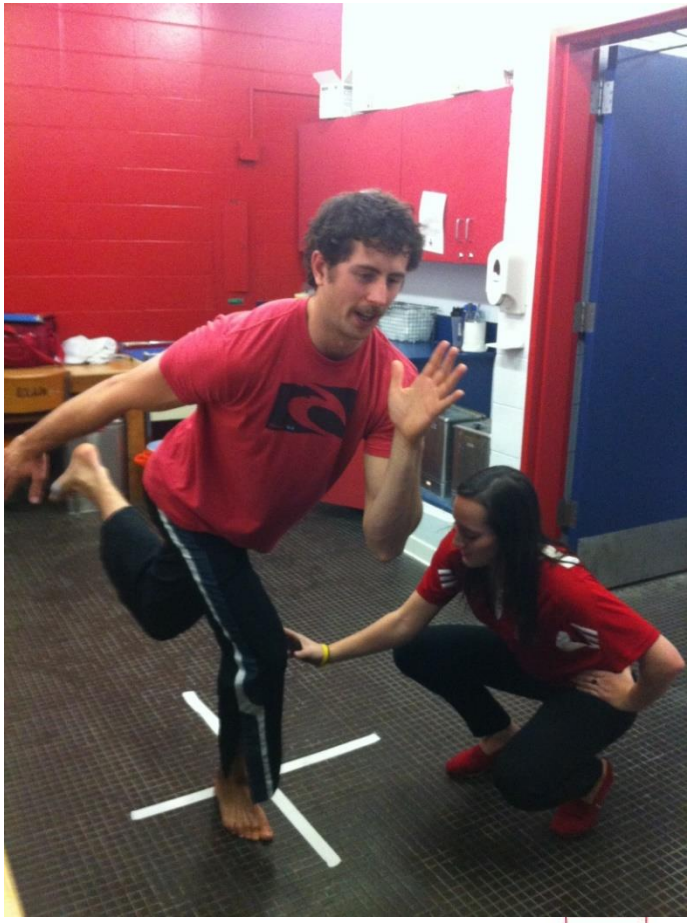
# Practical Example: First Person Video Instruction/Demonstration

# Practical Example: Clinical Skill Video Creation

- **Educational "Why"** – to get students to act as their own critic/evaluator by recording their rehabilitation plans, instructing/education, making corrections, etc. and submitting the final product

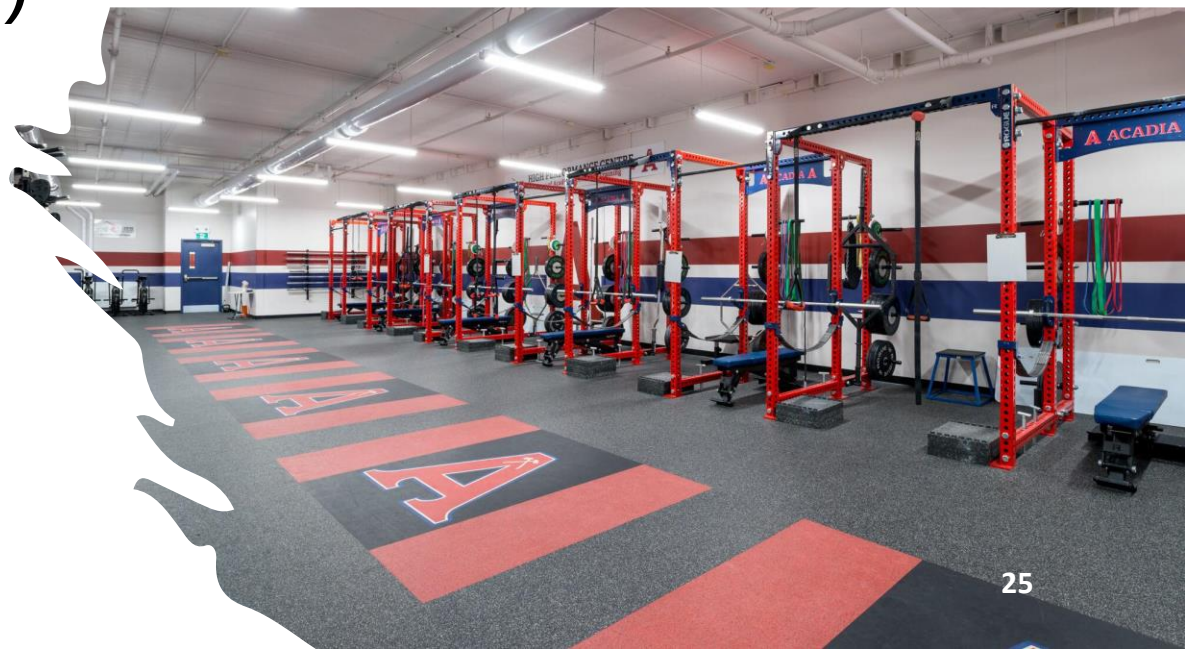
# Practical Example: Clinical Skill Video Creation





# Technology and Clinical Practice

**Educational "Why"** - using velocity-based training (VBT) to provide more objective data to help ATs make the difficult decisions of return to play



# Technology and Clinical Practice

**Educational "Why"** – to help re-establish the connection between the brain and the extremities in later stages of rehab

# Technology and Clinical Practice

# Potential for Technology in Athletic Training & Therapy Education

- Recording authentic assessments/treatment embedded within a critical reflection assignment
- Recording OSCE and have students reflect on their own performance (contributing to overall competence development/grade)
- Google Forms to track competency development/programmatic assessment
- Video creation assignments that demonstrate course objectives, competence, clinical reasoning, etc.
- Multimedia activities that engage kinesthetic learners
- Hybrid education??

# How to Start Using Technology for Teaching More Effectively

- Stay within your comfort zone
- Explore…there are so many cheap/free technologies that are at our fingertips
- Refer back to important teaching with technology principles
- Think about how you can leverage technology in a more pedagogically meaningful way
- Trial and error (learn to love to learn)
- Be a reflective practitioner

# Thank You!

If you have any questions or would like to discuss further, please get in touch.

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Teaching Parents Technology