Taking Physiotherapy Subjects Online: From Theory to Practice

Orr, Rob Marc

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Taking Physiotherapy Subjects Online: From Theory to Practice

Rob from Physio
The Program

- DPHTY program is a 2-year intensive program
- Typical day (pre COVID) was 0900-1600 daily
- 60 students in each of two cohorts
The Challenge

- Deliver intensive / condensed theory subject...
- ...to students we had never met or had met each other
- ...where over 40% were overseas
- ...across at least 7 times zones (inc China, India, Ireland, USA, Canada and Australia)
- ...with varying technological capacities
- ...but still engage them with the program, each other, and learning
- ...and prepare to do this in just under 7 weeks
Teaching Approach

• The Pedagogy–Andragogy–Heutagogy Continuum to assist in transitioning from undergraduate to postgraduate learners

• Knowledge retention strategies
  • Use of handwriting notes,
  • chunking,
  • scaffolding,
  • reinforcement theory,
  • cognitive learning models,
  • sensory stimulation theory, etc.
Teaching Approach - Considerations

• Edutainment (gamification)
• Informal / Indirect learning
• Blue enriched light (and downstream impacts)
• Bond branding
• Optimised PowerPoint use
  • Deuteranomaly and protanomaly
  • Number of points / words per slide
Teaching Approach – Known Variables

• COVID and Stress / Anxiety in Students

Students under lockdown: Assessing change in students’ social networks and mental health during the COVID-19 crisis

Timo Elsner1, Kieun Mephans1, & Christoph Stadtfeld2
1Chair of Social Networks, ETH Zürich, Switzerland

Abstract

This study investigates change in students’ social networks and mental health at the time of the COVID-19 crisis in April 2020. We surveyed multi-dimensions of social networks (persistence, interaction, friendship, social support, co-studying, and mental health indicators: depression, anxiety, stress, loneliness) before and during the crisis among Swiss undergraduate students (N=212). We find that interaction and co-studying networks have become sparser, and more students were studying alone. Furthermore, students’ levels of stress, anxiety, loneliness, and depressive symptoms got worse. Students shifted from fears of missing out on social life to worries about health, family, friends, and their future. Exploratory analyses suggest that COVID-19 specific worries, isolation in social networks, lack of interaction and emotional support, and physical isolation were associated with negative mental health trajectories. The results offer starting points to identify and support students at higher risk of social isolation and negative psychological effects during the COVID-19 pandemic.

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Teaching Approach – Known Variables

- Selye’s General Adaptation Syndrome and student responses to stress through change

https://sanescohealth.com/blog/general-adaptation-syndrome-stages
Teaching Approach - Considerations

- Circadian rhythms and lulls
Teaching Approach - Considerations

- Yerkes Dodson Curve

Teaching Approach - Considerations

- Equitable Access
  - Time zones
  - Internet access
  - Family / work situations
- Shift work (Shift study?)
- Screen fatigue
Delivery

• Synchronous Delivery
  • Real-time sessions

• Asynchronous Delivery
  • Videos
  • Interactive Videos
  • SCORM/Articulate

• Often Interchangeable
<table>
<thead>
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<th>Monday</th>
<th>Tuesday</th>
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<td><strong>Orientation to Physics and Introduction to Foundations of Physiotherapy</strong></td>
<td><strong>Review and General Discussions</strong> (Pod Casts)</td>
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<td><strong>Full Time Wrap Up (15 Min)</strong></td>
<td><strong>Postures, Gait &amp; Balance Across the Lifespan</strong></td>
<td><strong>Lifespan</strong></td>
<td><strong>Painful and Distant</strong></td>
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<td><strong>Introduction to Throat Healing and Repair</strong></td>
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Delivery

PHTY 71-401
Foundations of Physiotherapy

The Physiotherapist in Action
(Tissue Healing and Repair)
Delivery - Preparation

Session Preparation

Preparatory Questions

The following questions are designed to prepare you for your session. These questions can be answered through applying your own general knowledge, research publications or associated textbooks.

1. List the three stages of tissue healing?
   1.
   2.
   3.

2. How long does each stage last?
   1.
   2.
   3.

Selected Reading

*Selected readings can be found on the Foundations of Physiotherapy library site under 'Resource List'.


The following reading provides a nice, albeit in depth, overview of the stages of tissue healing.
ACUTE INFLAMMATION

- Cardinal Features
  - Heat
  - Redness
  - Swelling
  - Pain
  - Loss of function
- Macroscopic Appearance
  - Pimples
  - Sunburn
  - Abrasions

The Haemostasis & Acute Inflammatory Response Phase

Inflammation is a...designed...to contain the injury, limit further injury, destroy damaged tissue and set up optimal conditions to promote repair to the injured region.

The first response of the body to an injury (or disease) is typically an inflammatory one.

The inflammatory response is characterised by...and...in the affected area in response to an injury:

Acute Inflammation

Acute inflammation can be defined as the reaction of vascularised, living tissue to local injury.

This means that degenerative changes that occur after death cannot be inflammation as the tissue is not living tissue.

The cardinal features of acute inflammation are:
- 
- 
- 
- 

The macroscopic appearance of acute inflammation can be seen in:
- 
- 
-
Delivery – Session Delivery

Selected Reading

“Selected readings can be found on the Foundations of Physiotherapy Blackboard site under resource list.”


For interest

Gait (3)

ARTICLE How fast does the Grim Reaper walk? Receiver operating characteristics curve analysis in healthy men aged 70 and over of Stanaway, Fiona F., Gajidic, Danijela, Blyth, Fiona M., Coutre, David G Le, Naganathan, Vasi, Waite, Louise; Seibel, Markus J., Handelsman, D., BMJ, 343(7837), 2011-12-15

This paper provides a nice link between assessment/outcome measures and clinical consideration  

Complete Check availability >
What does this profile mean for a treatment approach?

**Session Check:**
What does this profile mean for a treatment approach?

**NOTE:** Whilst inflammation is typically a protective response it can be potentially harmful (e.g., dramatic hypersensitivity to bee stings or some medications) and may underlie some chronic diseases like rheumatoid arthritis and lung fibrosis.
Tissue Healing and Repair
...part 2 (now with free dizziness)

Associate Professor Rob Orr
Foundations of Physiotherapy PHTY 71-401
Delivery – Session Consolidation

Question 1: Which of the three stages of tissue healing is associated with increased capillary response?

A. Inflammatory
B. Consolidation
C. Migratory
D. Motorisation

Question 2: Which of the following is NOT one of the three stages of tissue healing?

A. Inflammatory
B. Consolidation
C. Migratory
D. Motorisation

The Physio Challenge Board

- By the Physio
- Save the day

Are you ready to be a hero Physio?
Delivery – Session Consolidation
Session Consolidation

Knowledge check

1. The knowledge checks are designed for you to revise and consolidate your knowledge based on the studies.

3. List three spinal postures

2. If someone had a lumbar pathology, which position (based on the pre-reading) would be more appropriate for them to exercise in, Sitting or Standing? and why?

3. From the list of factors known to impact on postures, which are most likely to impact on your current daily posture?
Student Engagement

- Discussion Board with Physio themed weekly challenges
  - (also used for informal learning)
- Connexion Discussion Board
- Oasis Coffee Lounge (+2 VIP lounges)
- Blog
- foundationsphysio@bond.edu.au
- Daily wrap up email
- Weekly events (Thoughts of the day / Riddle of the Day/Trivia events)
Outcomes

- Ultra engagement
Outcomes

• Synchronous engagement
### Outcomes

- Preferred style of delivery

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<thead>
<tr>
<th>Rank</th>
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<td>2</td>
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<td>3</td>
<td>Video Presentation</td>
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<td>4</td>
<td>Real-time Tutor session</td>
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<td>5</td>
<td>SCORM</td>
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Outcomes

• Engagement with the program

• Expectations
Teaching across multiple time zones

Ack:
Prof Wayne Hing
Suzanne Gough
Sarah Long
Ben Schram, Elisa Canetti and Elizabeth Cooper