Online adaptive tutorials that support learning in data interpretation and scientific reasoning.
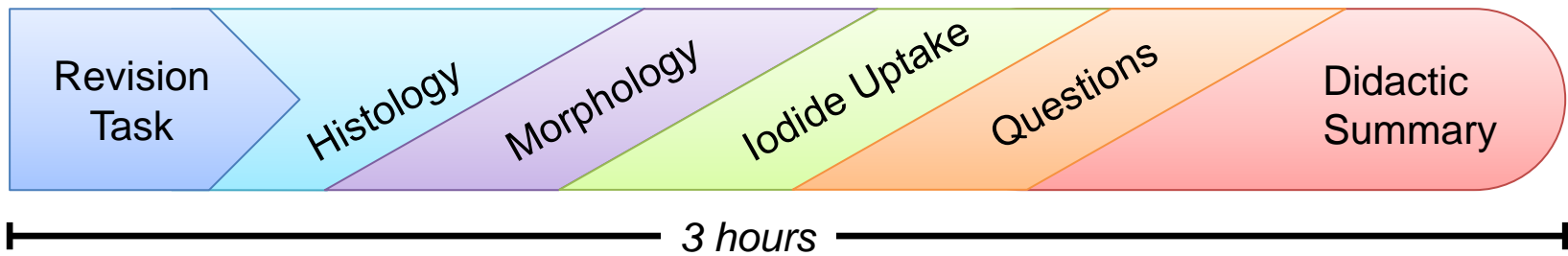
Dr Trevor Lewis

SMART SPARROW

Biomedical, Education, Skills and Training (BEST) Network

Connecting Australia to a better future

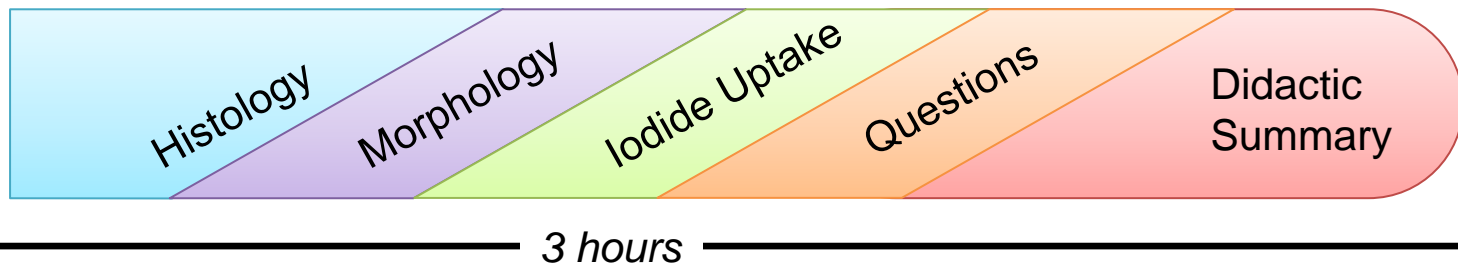National Broadband Network

Task Description and Structure

Revision Task → Histology → Morphology → Iodide Uptake → Questions → Didactic Summary

3 hours

Task Description and Structure

1. Pre-Lab adaptive elearning:
Online revision of key concepts

Median time:
18 minutes

Histology · Morphology · Iodide Uptake · Questions · Didactic Summary
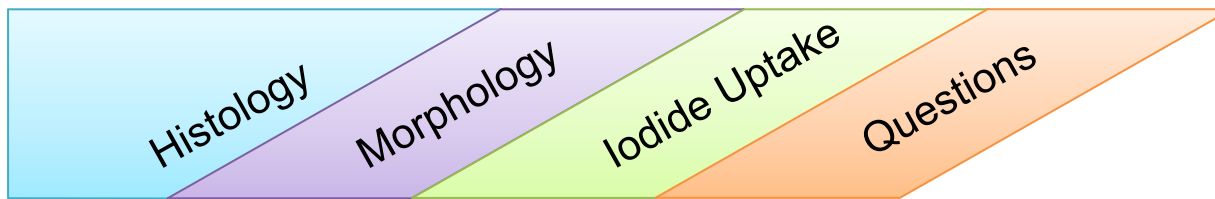
3 hours

UNSW
THE UNIVERSITY OF NEW SOUTH WALES

Task Description and Structure

1. Pre-Lab adaptive elearning:
Online revision of key concepts

Median time:
18 minutes

Histology   Morphology   Iodide Uptake   Questions

3 hours

3. Post-Lab adaptive assessment:
Online formative assessment; correction of misconceptions.

Median time:
14 minutes

Completion: 84%
(217/ 259 students)

Task Description and Structure

1. Pre-Lab adaptive elearning:
Online revision of key concepts

Median time:
18 minutes

2. In the Lab:
What is the effect of thiouracil and thyroxine on the thyroid gland?

A. Adaptive histology module

B. Cell morphology measurements

C. Radioiodine uptake analysis

D. Literature Search

Collaboration
analysis of data,
interpretation
peer learning

Deductive Reasoning

Formulate Hypothesis

Share conclusion with class

3 hours

3. Post-Lab adaptive assessment:
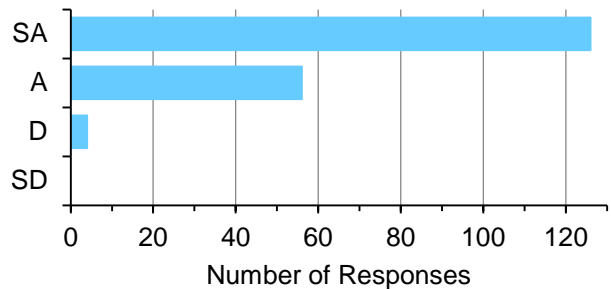Online formative assessment; correction of misconceptions.

Median time:
14 minutes

Completion: 84%
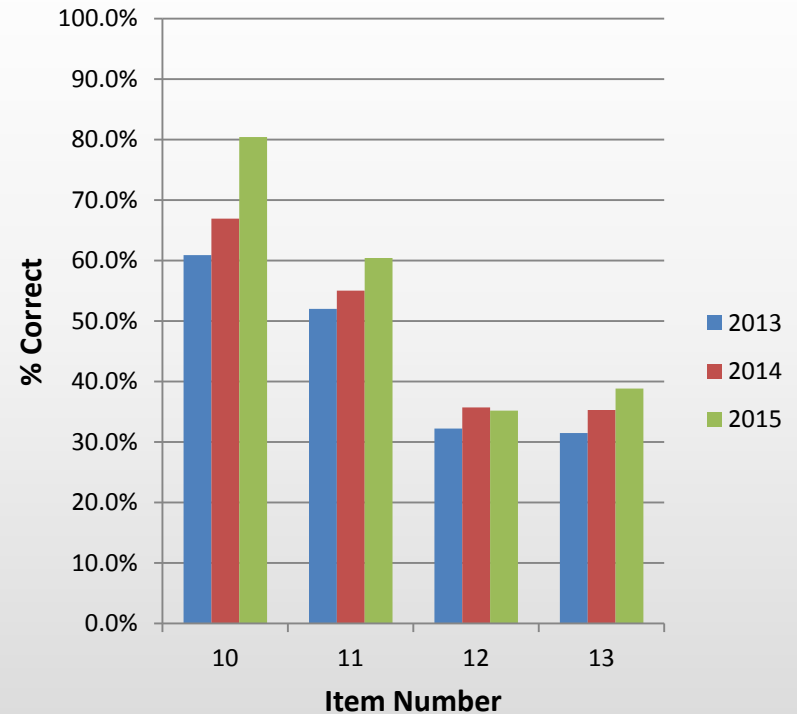(217/ 259 students)

Outcomes

The laboratory / tutorial helped me to understand thyroid physiology

"*Extremely interactive, which is probably the absolute best way to learn in my opinion. Instant feedback, which helps so much in properly correcting mistakes.*"

"*It was clear and well explained. It was also good to be able to link experimental evidence to the conclusions we drew*"

Items 10 and 11 require identification of actions, Items 12 and 13 require processing of information (calculations)