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BNU Staff Conference July 2024

Empowerment Through Research: Bridging Academia and Society

Using an mLearning tool MediLingo: Bridging communication gaps for nursing students

Created by:

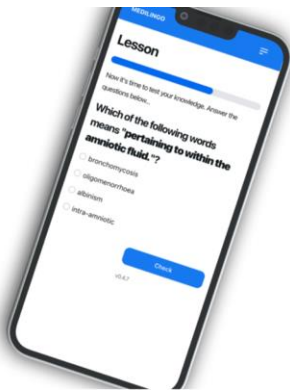
Nic McAllister, Taryn Tavener-Smith, & Jon Jackson

(Schools of Nursing & Midwifery; Creative & Digital Industries - Computing)

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Learn medical terminology
with MediLingo





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MediLingo Team



Nic McAllister
Healthcare practitioner



Jon Jackson
Technologist

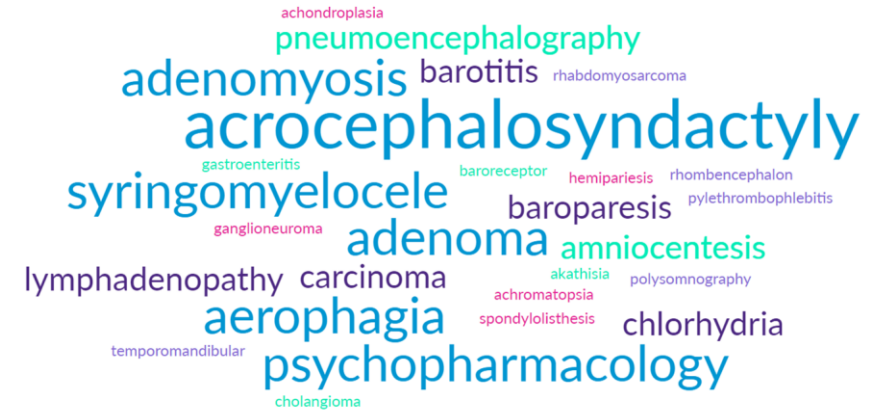


Taryn Tavener-Smith
Linguist

- Nic: Associate Lecturer, joined BNU in 2020, works as a Transfusion Practitioner in NHS.
- Jon: Senior Lecturer in Computing joined BNU as AL in 2015, SL in 2018.
- Taryn: Lecturer in Nursing and Midwifery, joined BNU in 2019.



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Did you know that upon completion of their degree, healthcare professionals on average, are required to have a **working vocabulary of around 6000-8000 medical terms?** (Uherovaová and Horňáková, 2013).

These words derive from **Greek and Latin** and can be difficult to learn using prescribed textbooks alone (Turmezie, 2012).

Research suggests that students perceive value in receiving **dedicated teaching** on the **linguistic rules** of medical terminology (McAllister, Tavener-Smith, and Williams, 2023).



The Problem

- Lots of jargon.
- Many medical terms rooted in ancient languages (Greek and Latin).
- Heterogeneous learning cohorts.
- Dedicated teaching of medical terminology is piecemeal.
- Digital educational resources have limited functionality.

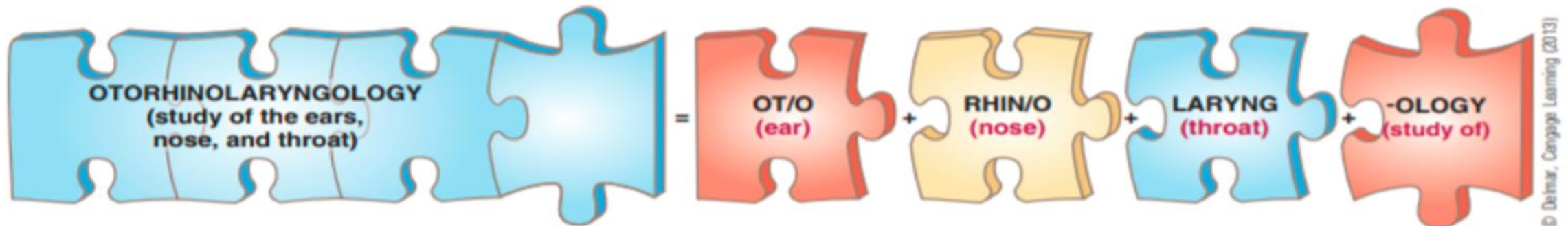


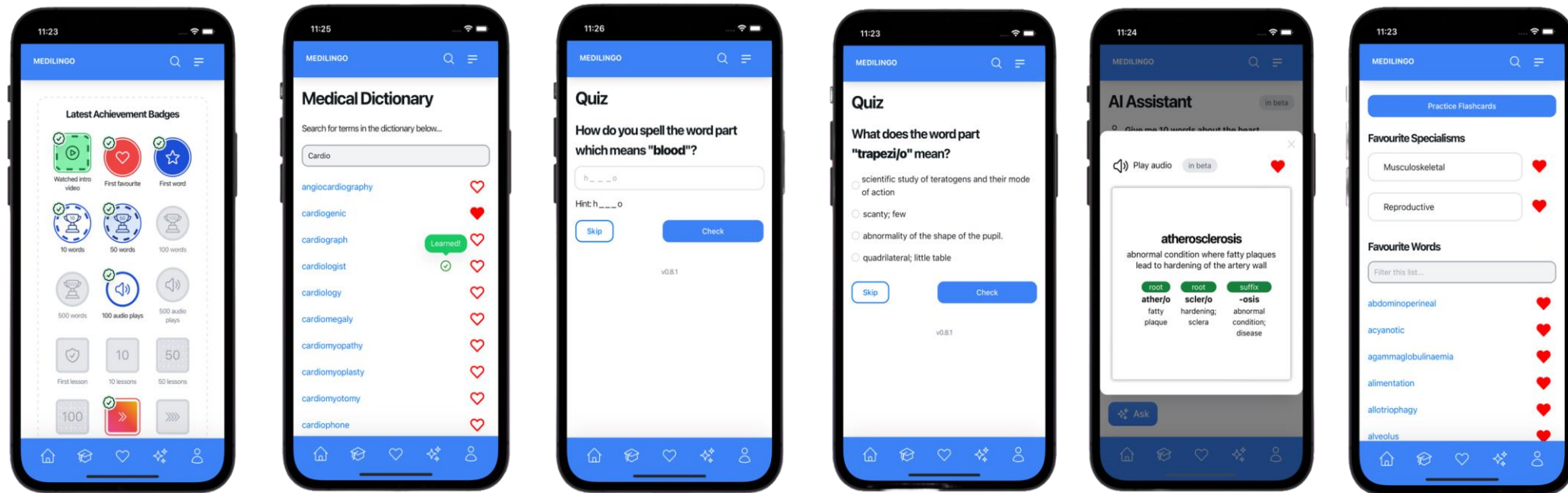
FIGURE 1.9 To determine the meaning of a medical term, the word parts are separated working from the end of the word toward the beginning.



Our novel solution

MediLingo: the mobile optimised web app

Learn medical terminology like a language; in an engaging and personalised way.



- At MediLingo we believe every healthcare student should be empowered to engage confidently in medical dialogue.
- It is our mission to [Advance Global Healthcare Literacy through Digital Innovation](#).
- MediLingo is the only app of its kind currently in the market boasting: flashcards, AI-enhanced pronunciation, lessons, quizzes, Medical Dictionary, AI Assistant, clear learner journeys, and much more.



MediLingo: Then & Now

Problem identified:

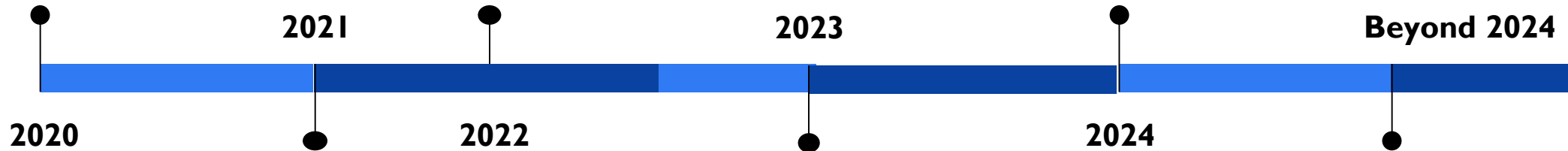
- Healthcare students find learning medical terminology (that derive from Greek and Latin word parts) challenging.
- There is no dedicated time in the curriculum to teach this material.

Initial findings published and app study initiated:

- MediLingo LTD. established.
- Second ethics approval obtained.
- X2 publications.

Internal/external app trials:

- Publishing Sept study results.
- External trials (Bedfordshire, Bournemouth, Elsevier).
- Pre-commercialisation activity commences.
- BNU Student Union Campaign launch.



Research initiated:

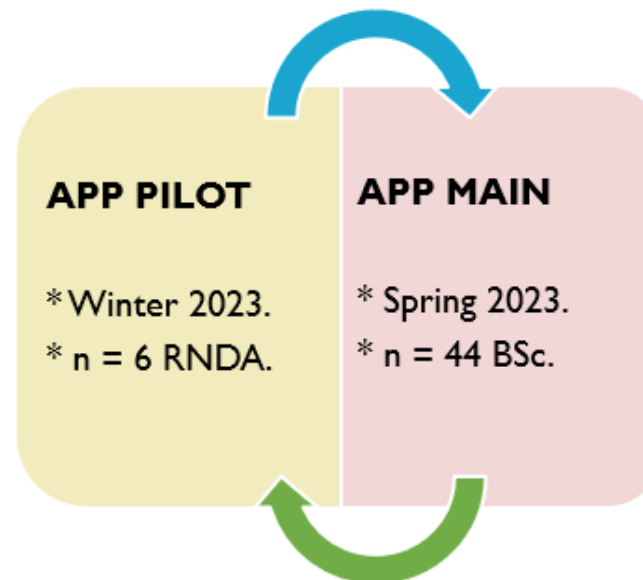
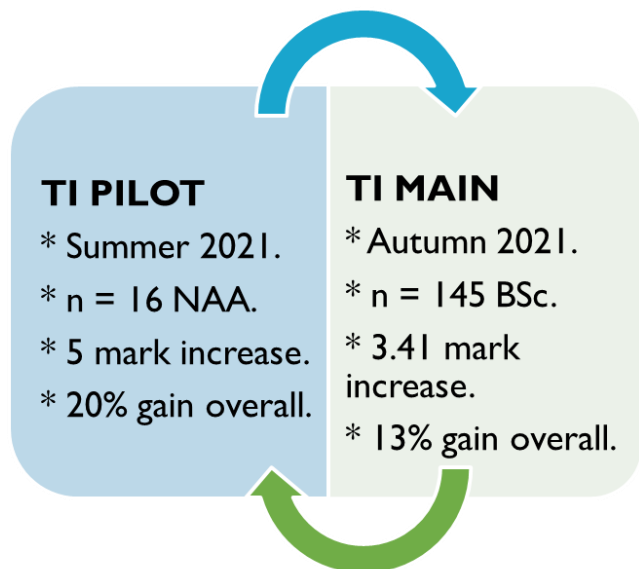
- Ethics approval.
- Computing 'live brief'.

Phase 2 research commences & dissemination of results:

- Second round of Impact Centre funding awarded.
- Jon Jackson joins team officially as Co-Founder/Director.
- X2 conference presentations.

Revenue generation & start up growth.

Developing MediLingo's Evidence-base

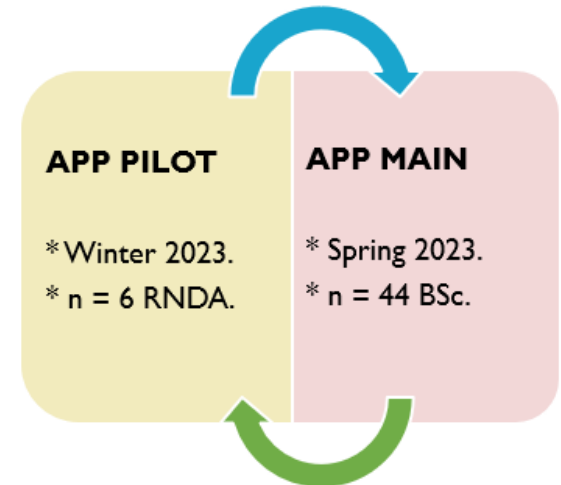


McAllister, N., Tavener-Smith, T. and Williams, J. (2023). [Decoding medical terminology: implementing digital teaching innovations to support nursing students' academic and clinical practice.](#) *Teaching and Learning in Nursing*, 18(1), pp. 84-90.

McAllister, N., Tavener-Smith, T. and Williams, J. (2022). [Roots, prefixes, and suffixes: decoding medical terminology using an online enquiry-based learning intervention for nursing associates.](#) *Teaching and Learning in Nursing*, 17(3), pp. 256-262.

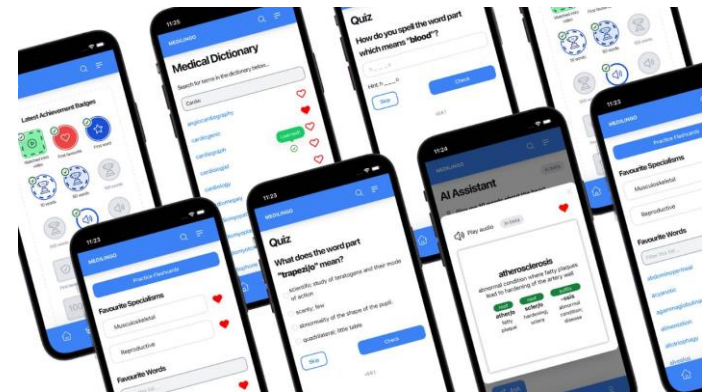
Study Design

- Non-experimental, pre-test and post-test design, alongside a cross-sectional survey.
- Purposive sample comprised 44 pre-registration undergraduate first-year BSc (Hons) Nursing students.
- Of the 44 participants who used the prototype, 29 participants completed the pre-assessment and 28 completed the post-assessment. 21 participants completed both the pre and post-assessment.
- SPSS Version 28.0 was used to conduct the quantitative data analysis.
- 2 measures applied: pre- and post-assessment (before and after MediLingo) + survey.



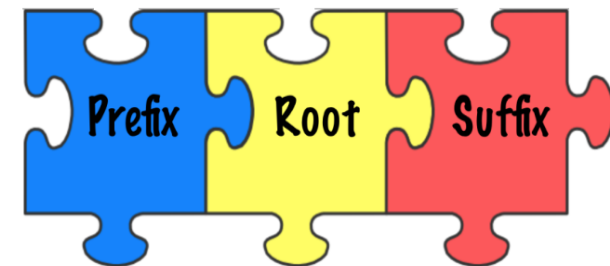
Study Results: Pre- and Post-Assessment

- A **significant difference** was found for the pre- and post-assessment means ($t(20)=-2.499, p=0.0215$).
- On average, the post-assessment results were **5.86 marks higher** than the pre-assessment = Improvement in medical terminology following use.
- A Spearman correlation was performed to determine if there was a relationship between the **recorded engagement with MediLingo and the post-assessment result**.
- **Moderate positive correlation** between **engagement** and **post-assessment scores** ($r(26) = 0.394, p = 0.038$).



Study Results: Survey Responses

- 95% “Agreed” or “Strongly agreed” that using MediLingo was both helpful for academic study and **increased knowledge** of medical terminology.
- 93% agreed it would be helpful for **clinical practice**.
- 88% agreed that MediLingo was **easy to use**.



Study Results: Survey Responses (continued)

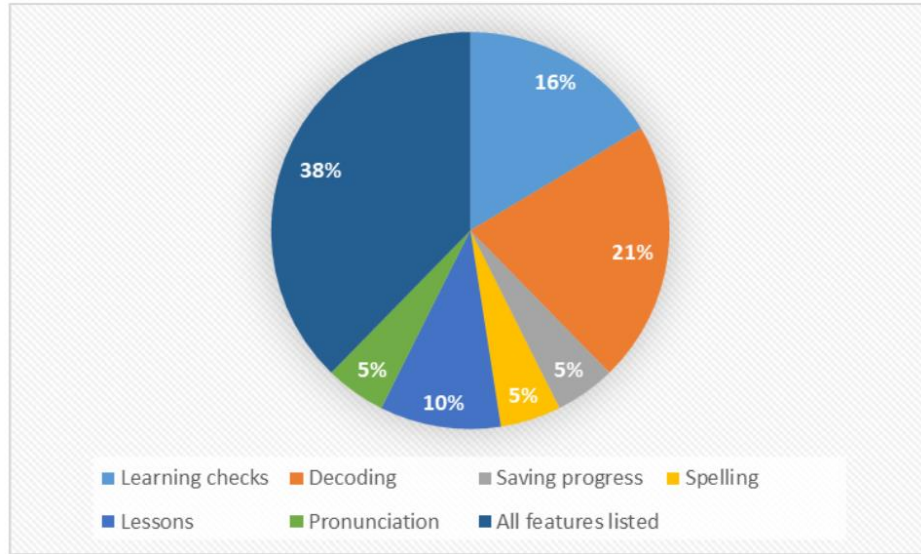


Figure 1:
MediLingo's most beneficial features
(according to participants)

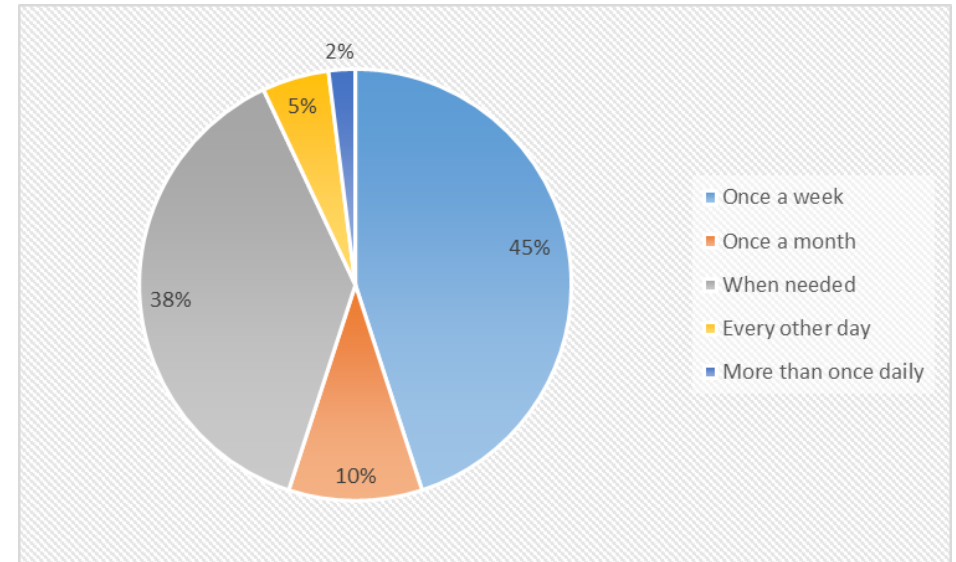


Figure 2:
Frequency of use by participants



Study Results: Survey Responses (continued)

'I have really enjoyed using this app. It has been really beneficial for my learning'

'The app was so useful in helping me understand my studies and develop a deeper comprehension of conditions and medical terms. It demystified an awful lot of confusing jargon.'

'Excellent extra learning resource for students!'

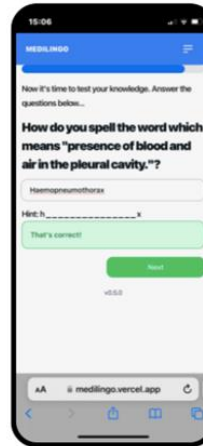
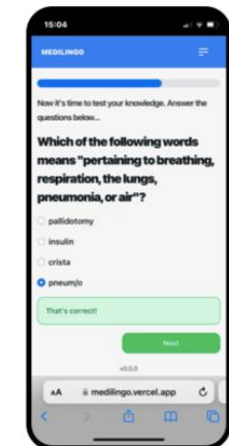
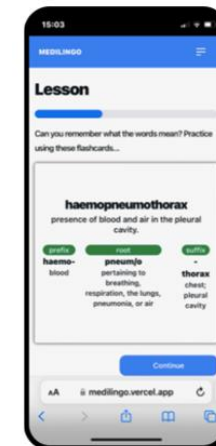
'This app is very helpful as an amateur in my Nursing career, I can't wait to start using it more often on placement.'

'I can't wait to start using [MediLingo] more often on placement.'



Where to next?

- Ongoing **external collaborations** (Bedfordshire, Elsevier).
- **BNU 'spin-out.'**
- **Official MediLingo launch** for Nursing & Midwifery students in **September 2024.**
- **BNU Staff workshops** to integrate MediLingo into the curriculum/teaching.
- Keep an eye out for the upcoming **BNU Student Union Campaign!**





Research Outputs

McAllister, N., Tavener-Smith, T. and Williams, J. (2023). **Decoding medical terminology: implementing digital teaching innovations to support nursing students' academic and clinical practice.** *Teaching and Learning in Nursing*, 18(1), pp. 84-90.

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McAllister, Nicole., Tavener-Smith, Taryn., and Jackson, Jonathan., (2023). *mLearning with MediLingo*. In: NETworking and Innovation in Healthcare Education Conference 23 Advance HE, 6th December 2023, Liverpool.

McAllister, Nicole., Tavener-Smith, Taryn., and Jackson, Jonathan. (2023). *mLearning with MediLingo: Decoding medical terminology like a language for Nursing students*. In: North West London Research Symposium for NMAHPPs, 27 September 2023, Imperial College London, South Kensington.

Research Notes X2

Next article currently under review with journal.





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Thank you for listening!

Learn more about us here: www.medilingo.co.uk

Any questions? Email us: medilingo@bucks.ac.uk

