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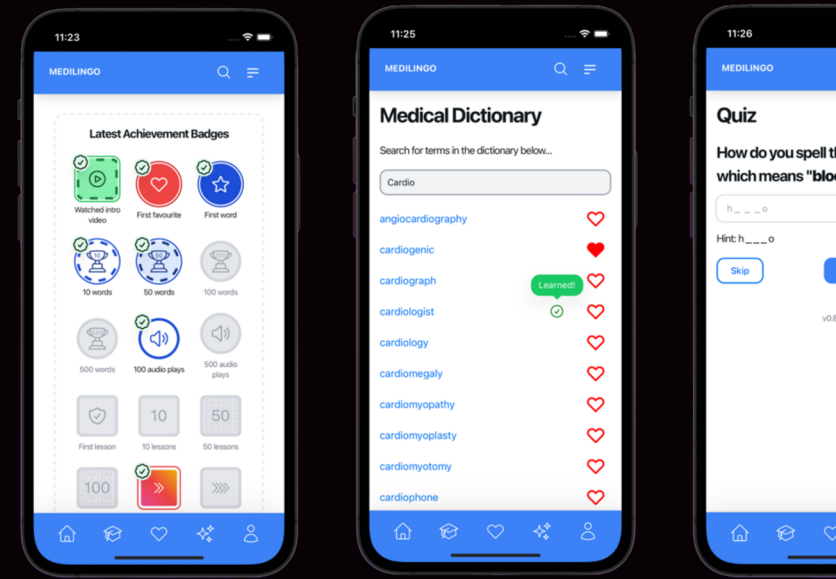
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Empowerment Through Research: Bridging Academia and Society



mLearning with MEDILINGO

Decoding medical terminology like a language for Nursing students

Medical terminology enables effective communication among healthcare professionals by offering precise meanings regarding patient health. Many students find learning medical terms challenging due to the complexity of these terms, which derive from Greek and Latin. Research suggests that students perceive value in receiving dedicated teaching on the linguistic rules of medical terminology.

The aim of this quantitative study was to measure the impact of an mLearning prototype, named MediLingo, on students' learning of medical terminology like a language by decoding complex terms into simpler prefixes, roots, and suffixes.

Methods

A non-experimental, pre-test and post-test design, alongside a cross-sectional survey was applied. Purposive sample comprised 44 pre-registration undergraduate first-year BSc (Hons) nursing students at BNU. SPSS Version 28.0 was used to conduct the quantitative data analysis.

Participants completed a base-line pre-assessment prior to using MediLingo for a 6-week duration to learn medical terms. Participants self-directed their app use, which was then followed by a post-assessment and survey.

MediLingo was developed as a cross-platform, mobile-optimised web application incorporating evidence-based language learning strategies, namely spaced repetition and linguistic morphology. MediLingo provided approximately 2500 categorised medical terms and definitions alongside 1300 word parts. Participants chose to learn terms using lessons, flashcards, quizzes, AI-enhanced audio pronunciation, dictionary searching, and favourite functionality.

Results

Of the 44 participants who used MediLingo, 29 completed the pre-assessment, 28 completed the post-assessment, and 21 completed both the pre and post-assessment. The mean pre-assessment result for these 21 participants was 16.57 out of 40 marks (41%). The mean result for the post-assessment was 22.43 marks (56%). On average, post-assessment results improved by 5.86 marks (15%) following use of MediLingo, which was shown to be statistically significant by a paired sample t-test; $t(20) = -2.499, p = 0.0215$.

A Spearman correlation determined a moderate positive correlation between engagement with MediLingo and post-assessment scores ($r(26) = 0.394, p = 0.038$), indicating that participants who engaged more with the tool achieved higher post-assessment scores.

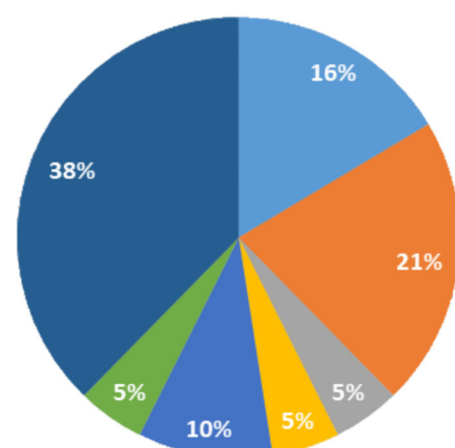


Figure 1. Most beneficial features of MediLingo

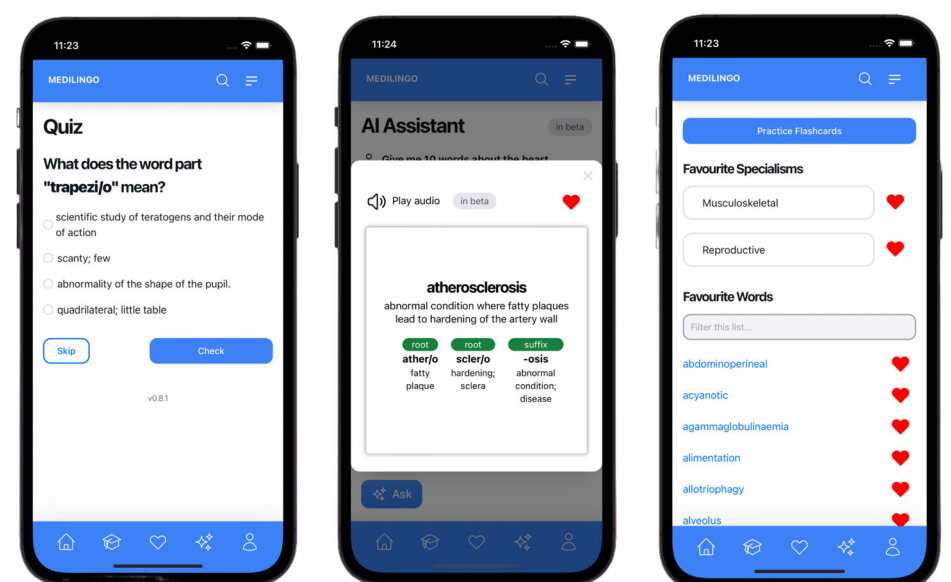
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Discussion

Teaching and learning medical terminology in highly prescribed nursing programmes in the UK remains challenging for students and educators. Complementary digital tools offer the opportunity for students to self-direct their learning according to their own personal needs, whilst offering educators a time efficient means of supporting students' acquisition of fundamental knowledge outside of the classroom.

The evidence-based language learning strategies incorporated into MediLingo were valued by the participants and proved to be an effective approach. This was evidenced by 95% of participants who 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 and 88% agreed that MediLingo was easy to use. Overall, participants valued learning to decode terms with 21% choosing this feature as the most beneficial (Figure 1).

In an increasingly digitised society, development and integration of mLearning tools offers a promising adjunct to traditional pedagogical approaches with the potential to enhance student learning both in the academic and clinical environment.



Limitations and recommendations

The limited sample size and purposive sampling method applied in this study limits the results' generalisability. Further research incorporating a larger sample, alongside additional development of the MediLingo tool to extend its vocabulary and refine its features, would prove advantageous.

- Learning checks
- Decoding
- Saving progress
- Spelling
- Lessons
- Pronunciation
- All features listed