ASCILITE 2026

The Future is Connection:

Collaboration, Creativity and Compassion in a Digital Society

Could AI-generated podcasts enhance pedagogical relationality in first-year health science students?

Ming Jing Ong
Curtin University

Existing studies on AI-generated podcasts confirm their feasibility to deploy and gain positive student reception in higher education. However, current research does not examine whether students experience AI-generated content as a meaningful point of connection to their educators. This study addresses this gap. Student engagement in higher education remains a persistent challenge. There is increasing need for flexible access to content outside timetabled learning for first-year health sciences students. Google NotebookLM podcast episodes were deployed as optional resources in a large, first-year multidisciplinary unit within a Faculty of Health Sciences, offering students a low-pressure way to revisit material at their own pace. For academics, AI-assisted podcast production creates an additional educational contact point without proportionally increasing workload. This qualitative study examines how students experience NotebookLM podcast as a pedagogical interface between educator-designed content and student learning. Drawing on a relational pedagogy framework and the concept of pedagogies of mattering, three out of 10 students were interviewed in Semester 2, 2026, following first-semester podcast deployment. Data will be analysed using theory-informed thematic analysis, answering whether an AI-generated, non-human artefact can trigger a meaningful human-centred learning design. Results from this study will provide insight into whether this non-human interface can enhance pedagogical relationality.

Keywords: AI-generated podcasts, relational pedagogy, interface, human-centred learning design, health sciences education, qualitative

Introduction

Human-centred learning design asks a foundational question of how we could create conditions in which students experience learning as meaningful, connected, and responsive to who they are? In higher education, this question has gained urgency as cohorts have grown more diverse. Student engagement with online and on-campus activities have declined (Polly, 2024). Increasing class sizes, academic workload intensification, and the social disruption of the post-pandemic period have collectively reduced the conditions under which meaningful student-educator relationships can form (Jones & Bell, 2025; Polly, 2024). Students with neurodivergence, disability, or significant work-study commitments may access formal teaching inconsistently (Horlin et al., 2024).

Relational pedagogy depends on the classroom as a site of genuine exchange where students and educators come into contact through responsive, in-the-moment and mutual dialogue (Hickey & Riddle, 2024). For this exchange to occur, students must be willing to speak. Yet for a substantial proportion of first-year students, the classroom is a site of social risk before it is a site of learning. The fear of negative evaluation associated with being unfavourably judged while participating in a social situation is a factor underlying undergraduate anxiety in active-learning environments. Students report fear as a common cause to withhold responses and disengage from class participation (Busch et al., 2023; Downing et al., 2020). Without students' input, it is difficult to establish relationality in a classroom as the pedagogical interface. The effect is not uniform and falls most heavily on students who are already socially marginalised, including those with disability, neurodivergence, and first-generation backgrounds (Busch et al., 2023). Human-centred learning design seeks pedagogical responses to these realities so that teaching approaches can be designed to prioritise forming student-educator relationship rather than treating knowledge delivery as the primary goal. This is where AI-generated podcasts may offer a more flexible, low risk possible interface for learning.

Google NotebookLM has the functionality to generate a two-host conversational podcast by taking the educator's knowledge and transforming it by a non-human system into a new form which could enhance relationality. The student encounters the form privately, at their own pace, outside formal learning, removing

the issues of fear and anxiety associated with learning in a group. The conversational format which presents as an informal, self-paced and easily accessible interface could carry implications for how students relate to the content and, by extension, to the educator whose knowledge shaped it. This paper asks whether that encounter constitutes a meaningful extension of the pedagogical relationship, or whether it is simply content in a new format (Barton et al., 2025; Khoury et al., 2026; Paudel, 2025).

By examining AI-generated podcast episodes deployed as optional consolidation tools across a large, first year multidisciplinary unit in the Curtin University, Faculty of Health Sciences, the author aims to answer the key research question of how first-year health sciences students experience AI-generated podcasts as part of their relationship with their educator, and do they support informality, mutuality, and a sense of being seen and supported in their learning?

Background and theoretical framing

Hickey and Riddle (2024) propose a relational pedagogy framework built around four dimensions: pedagogical informality, interface, exchange, and enactment. The pedagogical interface, defined as the point of encounter between teacher and student, sits at the centre of this framework. It is characterised by mutuality and informality, and shaped by the sociocultural, spatiotemporal, and material conditions that surround the exchange. What this means in practice is that the quality of a teaching relationship is not determined by formal instruction alone, but also by the conditions that bring teacher and student into contact, and the non-human resources available for making knowledge meaningful in context (Hickey & Riddle, 2024). At its core, this is a human-centred account of teaching: what matters is not the delivery of content, but whether the conditions for genuine learning are present.

Gravett et al. (2024) extend this thinking through a posthuman, feminist materialist lens, arguing that relational pedagogies have focused too narrowly on human relationships while overlooking the role of non-human actors, objects, and materialities in shaping the learning encounter. Their concept of pedagogies of mattering proposes that what matters in learning is not only the exchange between people, but whether students experience connection and meaning in their encounter with the full learning environment, including its non-human elements. For human-centred learning design, this is a meaningful expansion. It does not reduce the importance of the student-educator relationship; it widens the design space to include the non-human artefacts and conditions through which the relationship reaches students.

Both theories are required to answer the research question on the relevance of AI-generated podcasts as a non-human interface for meaningful relationships between educator and learner to occur. NotebookLM transforms an educator's teaching materials into an asynchronous format that is informal and conversational. In Hickey and Riddle's (2024) terms, the podcast occupies the position of the pedagogical interface, sitting between the educator's intent and the student's interaction with the material. Whether a non-human artefact can carry the mutuality and connection that both frameworks identify as central to relational pedagogy, is precisely what this study is designed to find out.

Method

This pilot study uses a theoretically informed, qualitative thematic analysis design. Ten episodes of AI-generated podcast episodes were produced using Google NotebookLM by the lead educator of a large first year multidisciplinary unit in the School of Allied Health within the Faculty of Health Sciences. The generated podcast format is of two-host conversational audio episodes of 10–20 minutes per topic. The episodes were made available within the unit learning management system as optional supplementary resources with no assessment attached to their use. Students were encouraged to use these episodes in two ways: (a) as a consolidation resource after attending the tutorials, or (b) the bare-minimum engagement with unit content before attending a tutorial class.

The unit is a first-year, compulsory foundational unit delivered across the School of Allied Health and other Health Science courses. The unit typically has an enrolment of 400 students delivered in both on-campus and online modes, over four study periods a year, supporting programs including physiotherapy, occupational

therapy, speech pathology, exercise and sport science, social work, paramedicine and nursing, making it one of the few sites in the Faculty of Health Sciences where students from across disciplines learn alongside one another in a shared curriculum context. The content of the unit is, by its nature, methodologically dense. Research design, biostatistical reasoning, and the appraisal of evidence hierarchies are concepts that many first-year health sciences students find abstract and difficult to connect to clinical practice at the point of entry into their degree. Anecdotal student feedback on the unit reflects this with the content frequently described as dry, and its relevance to future practice not always immediately apparent to students who enrolled with aspirations oriented toward person-centred care rather than research literacy.

This presents a direct pedagogical challenge. Evidence-informed practice is a foundational graduate capability, yet its dry nature and the conditions under which students typically encounter it, in a large, mixed-discipline cohort, are precisely the conditions least conducive to the relational engagement that makes learning stick. When tutorial content is perceived as tedious and its value is not yet visible, the social risk of asking questions or revealing confusion in front of peers is heightened, which exacerbates the unlikelihood of students to invest relationally in a space they do not yet find meaningful (Busch et al., 2023; Hickey & Riddle, 2024). In a large unit like Evidence Informed Health Practice with over 400 students, building the kinds of educator-student and peer relationships that support deep learning therefore requires supplementary strategies that extend the pedagogical encounter beyond the tutorial room. These will offer students more opportunity to see the importance of the unit in their future professions (Faihs et al., 2023; Hickey & Riddle, 2024), and allows students the chance to revisit difficult content privately, at their own pace, and without the social exposure of a classroom in which they do not yet feel confident.

Data has been collected through semi-structured interviews with three out of 10 student participants, purposively sampled from a pool of students who have identified as consumers of the AI-generated podcast. Recruitment will continue until data saturation is reached. Interview questions are structured around the four dimensions of Hickey and Riddle's (2024) relational pedagogy framework of informality, interface, exchange, and enactment and Gravett et al.'s (2024) concept of pedagogies of mattering.

Data will be analysed using Braun and Clarke's (2006) reflexive thematic analysis, generating themes deductively, and theoretically informed by the Hickey and Riddle (2024) and Gravett et al. (2024) frameworks. Analysis will attend specifically to how students characterise the interface between themselves and the podcast, the conditions under which engagement feels relational rather than transactional, and whether the non-human format is experienced as carrying the educator's intent or as detached from it. Ethics approval for this study has been obtained from the Human Research Ethics Committee (*HRE2026-0398).*

Iterative findings and discussion

Preliminary analysis of the three interviews suggests a mixed picture. The following findings are tentative and will be analysed further with the completion of more student interviews. The data suggest learners see the educator as the centre of the pedagogical relationship, and the podcast does not play a bigger role in their learning experience. In addition, the podcast may make learning easier to access without becoming the place where the relationship happens.

Informality, mutuality, and the human-centred interface

Hickey and Riddle's (2024) framework positions the pedagogical interface as characterised by mutuality and informality, qualities that emerge in the relational encounter between educator and student. A central question for analysis is whether students experience the AI-generated podcast as carrying these qualities. The podcast's conversational two-host format, generated by NotebookLM, produces a register of informality by design as it is structurally different from lecture recordings or written notes and can be listened to anytime, anywhere.

Preliminary analysis of three interviews suggests that this designed informality is not automatically experienced as genuine. Some students described the AI voices as "alien" and said that listening can feel "weird" and "icky." For these students, a conversational format does not on its own create the mutuality that Hickey and Riddle describe. Students also said the podcast would not replace learning from lectures or from

their educator which suggests they still see the educator as the centre of the pedagogical relationship. As more interviews are scheduled to take place, these findings may change.

If later interviews show that some students do feel connected to the educator's intent, AI-generated audio could be an evidence-based tool for extending the educator's reach beyond the classroom. If they do not, the podcast is better understood as a support alongside the educator than as a point of connection with them.

Mattering and the conditions of meaningful engagement

Gravett et al. (2024) argue that existing relational pedagogies in higher education focus almost entirely on human actors including the teacher, the student, and the peer but overlook the non-human objects, spaces, and materialities that also shape whether learning connects or does not. Their concept of pedagogies of mattering asks educators to broaden the question from who matters to what matters and include a full range of human and non-human actors that constitute the learning encounter. In their framing, a podcast, a screen, a chair, a set of uploaded slides are not mere containers for content but active participants in the conditions under which students come to feel connected, seen, or excluded. This matters for the current study in a direct way as AI-generated podcast could be a possible non-human participant that facilitates human-centred learning.

The NotebookLM podcast could be a non-human participant that sits inside the student's learning environment, accessed on a phone during a commute, replayed on a laptop at midnight, paused at the moment a concept clicks. Preliminary interviews show that students value being able to learn anywhere, which supports Gravett et al.'s (2024) point that the setting and the device are part of the pedagogical encounter. At the same time, students described discomfort when listening to an AI-generated podcast because "it is scary to see how AI can make something sound so real" which fits their argument that mattering is complex, can be ambivalent, and is not always positive. The interviews therefore will continue to address whether there are moments that are meaningful to students, and whether they help students feel connected to, and seen by, their educators.

Implications for practice

While podcasting is a well-established teaching tool in higher education (Boulos et al., 2006), the traditional production process is tedious. Since then, many higher education researchers have looked into the use of AI-generated podcasts. The existing evidence on AI-generated podcasts in health sciences education focuses on feasibility, quality, and student satisfaction, with studies confirming AI-generated podcasts are well-received by students, feasible to implement, and associated with improved knowledge and confidence (Barton et al., 2025; Khoury et al., 2026; Paudel, 2025). Concerns about accuracy and trustworthiness have also been raised, with Desmedt et al. (2025) noting that some AI-generated content contained inaccuracies and mispronunciations that affected credibility. What this body of work does not examine is the pedagogical relationship the podcast mediates and whether students experience it as a meaningful point of connection to the educator, or simply as convenient content. This study addresses that gap by asking whether an AI-generated podcast can carry the educator's intent in a way the student recognises, and whether that encounter constitutes a form of human-centred pedagogical connection.

If new themes emerge from the remaining interviews with students that experience the NotebookLM podcast as a genuine pedagogical interface, the implications for human-centred learning design are practical and scalable. The NotebookLM tool requires no scripting, recording, or editing; existing teaching materials are converted to conversational audio within minutes (Acar, 2025). For academics, this creates a low-cost pathway to extending their pedagogical presence beyond the lecture room. For students, particularly those with neurodivergence, disability, or significant work-study commitments, it may provide a content-access pathway that does not require presence at a fixed time or place and does not expose them to the social risks of visible in-class questioning (Gibbs et al., 2025; Gunderson & Cumming, 2023; Horlin et al., 2024).

The broader implication concerns how institutions approach the integration of AI tools into human-centred learning design frameworks. The key question is not whether an AI tool is technically functional, but whether its design properties support the relational conditions under which learning becomes meaningful.

Conclusion

This study asks whether an AI-generated podcast can act as a meaningful point of connection between the student and their educator, and does it support informality, mutuality, and a sense of being seen and supported in their learning? Using Hickey and Riddle's (2024) relational pedagogy framework and Gravett et al.'s (2024) pedagogies of mattering, the study looks beyond whether students use the tool, to whether it supports the kind of human-centred teaching relationships that make learning meaningful. More interview data will be presented at the conference, adding to a growing evidence base on where generative AI tools sit within relational teaching practice in health sciences education.

References

Acar, O. A. (2025, March 31). *Turn your class lessons into engaging podcasts with AI*. Harvard Business Publishing Education. https://hbsp.harvard.edu/inspiring-minds/turn-class-lessons-ai-podcasts-accessible-students

Barton, M. J., Okada, M., & Todorovic, M. (2025). Podcasts in health education—Insights from a scoping review and survey. *Anatomical Sciences Education, 18*(12), 1388-1405. https://doi.org/10.1002/ase.70037

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Boulos, M. N. K., Maramba, I., & Wheeler, S. (2006). Wikis, blogs and podcasts: A new generation of Web-based tools for virtual collaborative clinical practice and education. *BMC Medical Education*, *6*, Article 41. https://doi.org/10.1186/1472-6920-6-41

Desmedt, C. P., Budts, W., De Vos, M., & Moons, P. (2025). Artificial intelligence-generated podcasts open new doors to make science accessible: A mixed-method evaluation of quality and the potential for science communication. *European Journal of Cardiovascular Nursing, 24*(6), 885-895. https://doi.org/10.1093/eurjcn/zvaf074

Faihs, V., Heininger, S., McLennan, S., Gartmeier, M., Berberat, P. O., & Wijnen-Meijer, M. (2023). Professional identity and motivation for medical school in first-year medical students: A cross-sectional study. *Medical Science Educator*, *33*(3), 711–719. https://doi.org/10.1007/s40670-023-01754-7

Gibbs, K., Simpson, K., Paynter, J., Easte, C., & Fowler, J. (2025). Exploring the perspectives of Australian neurodivergent university students. *The Australian Educational Researcher*, *52*(3), 2665-2687. https://doi.org/10.1007/s13384-025-00828-2

Gravett, K., Taylor, C. A., & Fairchild, N. (2024). Pedagogies of mattering: Re-conceptualising relational pedagogies in higher education. *Teaching in Higher Education, 29*(2), 388–403. https://doi.org/10.1080/13562517.2021.1989580

Gunderson, J. L., & Cumming, T. M. (2023). Podcasting in higher education as a component of Universal Design for Learning: A systematic review of the literature. *Innovations in Education and Teaching International, 60*(4), 591–601. https://doi.org/10.1080/14703297.2022.2075430

Hickey, A., & Riddle, S. (2024). Proposing a conceptual framework for relational pedagogy: Pedagogical informality, interface, exchange and enactment. *International Journal of Inclusive Education, 28*(13), 3271–3285. https://doi.org/10.1080/13603116.2023.2259906

Horlin, C., Hronska, B., & Nordmann, E. (2024). I can be a "normal" student: The role of lecture capture in supporting disabled and neurodivergent students' participation in higher education. *Higher Education*, *88*(6), 2075–2092. https://doi.org/10.1007/s10734-024-01201-5

Jones, C. S., & Bell, H. (2025). Unravelling sense of belonging in higher education: Staff and student perspectives at an English university. *Trends in Higher Education*, *4*(3), 45. https://doi.org/10.3390/higheredu4030045

Khoury, Z. H., Sultan, M. S., Tavares, T., Jessri, M., & Sultan, A. S. (2026). AI-generated podcasts for health education. *Medical Teacher, 48*(1), 158-163. https://doi.org/10.1080/0142159X.2025.2513421

Paudel K. R. (2025). AI-generated podcasts as a supplemental pharmacology learning tool: A feasibility study in undergraduate medical education. *Medical Science Educator*, *35*(6), 2735–2741. https://doi.org/10.1007/s40670-025-02521-6

Polly, P. (2024). Disrupted student engagement and motivation: Observations from online and face-to-face university learning environments. *Frontiers in Education*, 8, Article 1320822. https://doi.org/10.3389/feduc.2023.1320822

ASCILITE 2026

The Future is Connection:

Collaboration, Creativity and Compassion in a Digital Society

Ong, M. J. (2026). Could AI-generated podcasts enhance pedagogical relationality in first-year health science students? In Cochrane, T., Narayan, V., Poole, T., Lai, P., Lake, P., Moore, O., & Li, L. (Eds.), *The Future is Connection: Collaboration, Creativity and Compassion in a Digital Society*. Proceedings ASCILITE 2026. Brisbane (pp. 774–779). https://doi.org/10.65106/apubs.2026.3238

Note: All published papers are refereed, having undergone a double-blind peer-review process.
The author(s) assign a Creative Commons by attribution license enabling others to distribute, remix, tweak, and build upon their work, even commercially, as long as credit is given to the author(s) for the original creation.

© Ong, M. J. 2026