

Podcasts in Higher Education: Exploring Audio Learning, Engagement, and Academic Success

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Abstract: This article investigates the empirical perspectives on podcasting in higher education, and analyses the intersections of audio learning, student engagement, and student achievement. In terms of educational value, podcasts have emerged as a dynamic learning tool, enabling learners to access content on-demand while increasing motivation that leads to deeper learning. Established in 2004, podcasting has initiated a vast adoption for educational use particularly in higher education learning contexts. Thus, podcast utilisation also coincides with motivational theories, specifically Self-Determination Theory, as it shares congruence with the tenets of autonomy, competence, and relatedness. The current article reviews literature and proposes the following themes regarding audio and podcast learning in higher education: the affordances and advantages for the audio learner, the impact on student engagement, educational experiences, academic performance, and retention, and the social emotional implications and challenges of audio learning. The review of podcasting literature demonstrated the value and benefits of audio learning for certain learners, including: accessibility for diverse learners, e.g., learners with neurodiversity, languages, academic challenges, and affordances such as differences in learning preferences. In light of these challenges, the potential of audio learning as a pedagogical tool to enrich the learning experience, while being equitable for all students, are discussed as opportunities for educators. The discussion highlights the potential for students and audio learning to have a substantial impact on collaborative learning while enhancing student learning achievement overall. The authors outlined some important suggestions for institutions and modern educators to consider when evaluating and implementing the use of podcasts for student benefit in their classroom. The article concludes with an overview of the complexities and challenges surrounding audio learning as an emerging pedagogical strategy and a lens into classroom practice for institutional learning.

Keywords: Podcasts, Higher Education, Audio Learning, Student Engagement, Academic Success, Pedagogical Tool

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Introduction

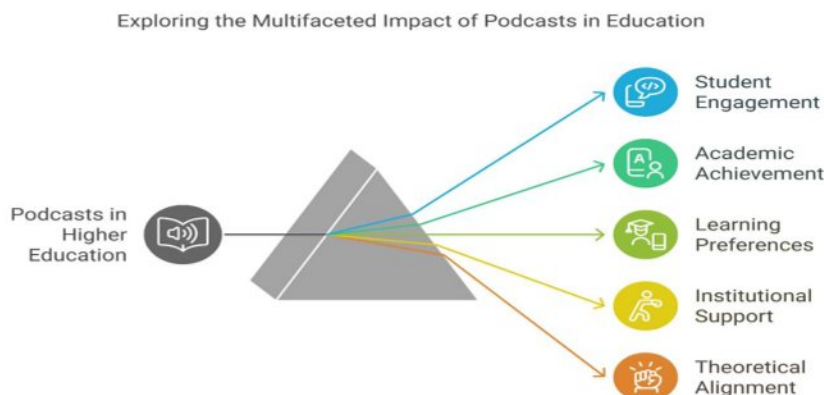
Empirical Perspectives on Podcasts in Higher Education investigates the effects of podcasting as a new pedagogical tool that connects audio learning, student engagement, and academic achievement. Podcasts are a dynamic medium providing on-demand access to learning about educational content. They have been embraced as a teaching tool across the higher education landscape since 2004, creating opportunities for deeper learning and enhancing student engagement in face-to-face teaching and learning environment (Araújo & Rodrigues, 2019). The use of podcasts in the curriculum also aligns with theories of motivation in adult learners, such as self-determination theory, emphasising autonomy, competence, and relatedness to understanding the efficacy of learning contexts (Perry, 2024).

Research has indicated that educational experiences involving audio learning strategies, including podcasts, can meet the wide range of learning preferences from students associated with their configuration preferences to increase accessibility for students including neuro diversity and those experiencing language barriers (Makina, 2019). The research reflects a growing trend among students, who express their

preference for audio formats when suggested a choice, underscoring benefits of audio formats including comprehension and focus, and multi-tasking, all of which surround a college experience (Locke et al., 2024). The potential for audio formats in the educational space depends on values and supports, including institutional technological capacity and access, institutional staff training practices and support for staff training opportunities, especially as potential impacts surround time usage as well as whether an audio space traverses or conjuncts with learning space on learning focus (Koçak & Alagözlü, 2021).

Research in the educational field indicates podcasting enhances student engagement, knowledge retention, and student academic performance (Paul, 2024). The audio context provided by podcasts allows students the freedom to become more engaged in their learning while having the ability to also engage with others collaboratively (Perry, 2024). Yet, some concerns have been raised about students relying too much on these audio materials rather than predominately relying on classroom experiences when learning. These considerations beg the need to weigh the possibility of podcasts—audio pedagogy—in higher education (Makina, 2019).

Fig 1: Exploring the multifaceted Impact of Podcasts in Education



Source: Compiled by the researcher

In the discussion of the role of podcasts in higher education, researchers have emphasised the need for continual systematic research to

assess the effectiveness of podcasts along with pedagogical approaches to maximise their success (Kay, 2012). In addition, as institutions try

to adjust to shifting educational contexts, it remains vital to understand the nuanced relationship between audio learning, engagement, and academic achievement and to examine this complex terrain from a research perspective (Rahman et al., 2024; “Using Podcasting,” 2022).

Background

Podcasting has become a new way to engage in higher education. It serves as an effective mechanism for creating content and increasing student engagement. Podcasts can be described as a series of audio and/or video files. These have been developed and maintained over time. Some of these materials are updated in the same way as a blog post or magazine (Araújo & Rodrigues, 2019; McGarr, 2009). Podcasts allow students to consume educational materials at their own pace. This approach helps to reduce the time and spatial limitations that exist in a formal classroom learning environment (Araújo & Rodrigues, 2019). Since the beginning of podcasting in 2004, the use of podcasts has grown at a rapid pace. This trend suggests that the podcasting modality can serve as a medium for entertainment and, at the same time, as an instructional resource that improves the learning experience (Merhi, 2015).

Using podcasts for learning activities and educational purposes fits within well-established motivational theories such as self-determination theory (SDT) developed by Ryan and Deci (“Using Podcasting,” 2022; Makina,

2019) or educational theories that suggest that intrinsic motivation and fulfilling the three basic needs of human motivation—autonomy, competence, and relatedness—are critical to creating a meaningful context for learning. Relevant research indicates that supportive teaching practices such as formative assessments, feedback, and praise directed at students can increase students’ self-efficacy and engagement in educational activities (“Using Podcasting,” 2022). This aligns with the findings in a university seminar in Tokyo. New ways to assess students, such as podcasts, encouraged self-expression and critical thinking (“Using Podcasting,” 2022).

Educational opportunities connected to podcasts do not stop at presenting content. They also allow collaborative learning experiences in which students can interact in meaningful ways with one another (Araújo & Rodrigues, 2019). The theory presented in this paper has been made available to academic developers and course designers as a resource that supports a systematic approach to using podcasts in teaching spaces. It considers the context and limitations that exist in traditional education, such as using podcasts to improve the curriculum (Makina, 2019). As educational institutions begin to study the benefits of podcasting, researchers must carry out empirical studies on the effectiveness of pedagogies based on this medium. These approaches can then be refined as educators and scholars learn more about the nature of podcasting (Merhi, 2015).

Fig. 2: Podcasting in Higher Education: Engagement and Motivation



Source: Compiled by the researcher

Audio Learning

Importance of Audio in Higher Education

Audio learning has developed as a high-value trending area of learning, providing valuable aspects of learning that are not available through print. In investigations focused on undergraduate students, it was noted that a number of students with divergent learning styles expressed an interest in more audio materials in their learning, which suggests that using audio materials would diversify their learning experience. As evidence to support this trend, one survey indicated that 53% of survey respondents would use more audio options if available (Locke et al., 2024). Recorded lectures and tutorials were the most two popular options which could be used to engage and learners' understanding of content.

Accessibility and Personalisation

What stands out most about audio learning is its accessibility for a range of students, including those who experience neurodiversity or language barriers. In separate studies, many students stated that experiencing some form of information orally—through podcasts or audiobooks—makes it easier to process the information. All students found it to be a format that supported their ability to multitask and learn at the same time (Locke et al., 2024;

Koçak & Alagözlü, 2021). All students also showed a sensitivity of self-awareness to their own learning styles and expressed a desire for different learning formats. Several students specifically requested audio learning options as a part of their learning experience (Hew & Cheung, 2012). This uniqueness of student interest also creates a motivation to think through the inclusive learning opportunity that audio offers. These learning formats match specific pedagogical practices such as Universal Design for Learning or UDL (Locke et al., 2024).

Implementation Challenges

Although audio learning clearly has many advantages, there are a number of challenges associated with accessing and implementing audio learning in higher education. Barriers include poor communication about what audio resources are available, challenges related to outdated technologies, and lack of opportunities for institutional training for staff to build new audio pedagogy skills (Locke et al., 2024). Some students noted that the university's existing infrastructure does not adequately support audio learning-based approaches, which might create a mismatch between student expectations for learning and the institution's capabilities to support them (Pimmer et al., 2016).

Fig 3: Audio Learning in Higher Education



Source: Compiled by the researcher

Innovative Audio Learning Strategies

With the rapid growth of digital platforms, and the increasing popularity of podcasts (one of many forms of media that can be consumed in audio format), higher education has begun investigating the use of audio learning approaches. Specifically, educators are tasked to develop lesson plans that are audio-content focused while considering the accessibility of resources for students, learning objectives, and suitability of the content (Koçak & Ala-gözlü, 2021). Emerging scholarship and public interest in podcasts suggest contextualizing audio content via a lens based on an educational framework for quality use of podcasts, is an effective strategy for educators to consider, as they engage with audio learning in their course curriculum (Bond et al., 2020). This framework guides educators to employ podcasts as an educational opportunity for many kinds of cognitive effectiveness such as understanding, application, deeper learning experiences, and student engagement (Makina, 2019).

Engagement

Podcasts have come to the forefront as a new way of learning in higher education, creating a uniquely interactive way of learning and giving students opportunities for meaningful

engagement. In the context of meaningful engagement, podcasts help create a positive behavioural, cognitive, and emotional space for student engagement with a commentary-based speaking task (Traphagan et al., 2009). Evidence suggests that a competence-supportive pedagogy leads to higher levels of student engagement, while a relatedness-supportive environment in an unbalanced context has a negative influence on engagement (Lee & Lui, 2024).

The Role of Autonomy and Choice

An essential component in engaging students in podcasts is the amount of choice or autonomy given to learners. When learners have the space to choose their topics of assessment and can create “need-supportive contexts”, this more effectively promotes intrinsic motivation and a greater depth of interest and learning about the content (Perry, 2024). Learners consider their own control over learning, in many instances, in relation to their academic experience as improved, as one learner stated, “deciding the topic was fun” (Perry, 2024). This sense of ownership is important in keeping students engaged and can exist even in an approach that is structured, as long as there is some degree of flexibility in the process (Conde-Caballero et al., 2019).

Impact of Technology and Social Media

The interaction between using technology, mainly social media platforms like Telegram, and student engagement has been a major area of research. Evidence has suggested that the use of social media for educational purposes has a positive effect on students' engagement and academic success, showing that such platforms can be effective tools in the educational experience (Parween et al., 2024a). On the other hand, it is important to maintain a mindful and healthy balance with technology use, because excessive use will deter academic achievement. There are various interventions, such as phases of digital detox and mindful use, that can support students in dealing with the challenges of using social media while creating a positive learning environment for students (Parween et al., 2024a).

The Power of Audio in Learning

The continued rise in the use of audio formats, such as podcasts, is associated with more personalised learning experiences, especially in online learning environments. During the transition to remote teaching occasioned by the Covid-19 pandemic, audio was used to engage students from different backgrounds while also offering an equitable and inclusive alternative to printed materials (Locke et al., 2024; O'Flaherty & Phillips, 2015). The collaborative nature of podcasting contributes to learning and supports the community, which has implications for student engagement and retention. Student-generated content through podcasts has been found to improve collaborative learning and problem-solving skills, which improves the learning experience (Kay, 2012; Paul & Paul, 2024).

Academic Success

The process of podcasting in higher education has developed into an important tool for improving student academic success. Podcasting, both as a teaching device and as a way of creating classroom content, has a positive influence on engagement, knowledge retention, and academic performance. Educators have shown the usefulness and effect of using technology in the learning process. They have observed that podcasts can affect not only motivation but also students' success in terms of post-secondary educational achievement (Paul & Paul, 2024; Goldenberg et al., 2023).

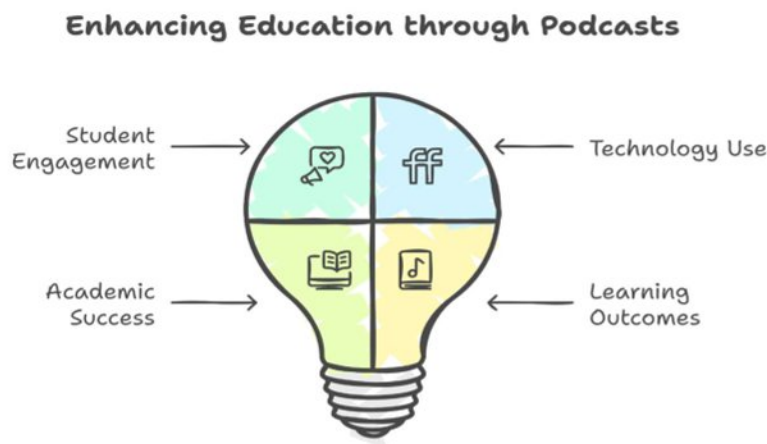
Impact on Student Engagement

Podcasts represent a flexible alternative resource that can suit different learning styles and preferences. They give students a chance to take part during lessons and work with others in a more interactive learning environment (Paul & Paul, 2024). Lecture podcasts also allow students to engage with the course material at their own times, which helps them learn the material better, particularly if they are not used to traditional in-class learning (Connolly, 2024; Araújo & Rodrigues, 2019).

Knowledge Retention and Learning Outcomes

It has also been shown that when students listen to podcasts as part of their studies, they show greater retention of knowledge and strengthen their understanding, particularly during exam study, when students rely on podcasts as a secondary resource (Paul & Paul, 2024; Connolly, 2024). Podcasts can also be a useful resource for non-native speakers of the instructional language, because they help with understanding. This increased familiarity can lead to better inclusivity and accessibility in learning (Connolly, 2024).

Fig 4: Enhancing Education through Podcasts



Source: Compiled by the researcher

Faculty and Institutional Support

The involvement of Faculty is crucial for the successful incorporation of podcasts into classroom practice. When Instructors perceive podcasting as part of their teaching philosophy, recorded lectures can enhance student satisfaction and engagement in the classroom (Paul & Paul, 2024). Engagement in innovative pedagogies such as podcasting enables institutions to establish a culture of student success and is likely to lead to increased retention and graduation rates among students (Goldenberg-Barbosa et al., 2023).

Challenges and Considerations

While a podcasting experience has important benefits, it also presents some challenges for education. For instance, some learners may utilise podcasts at the expense of attending lectures, which, ultimately, may reduce their classroom engagement (Connolly, 2024). In

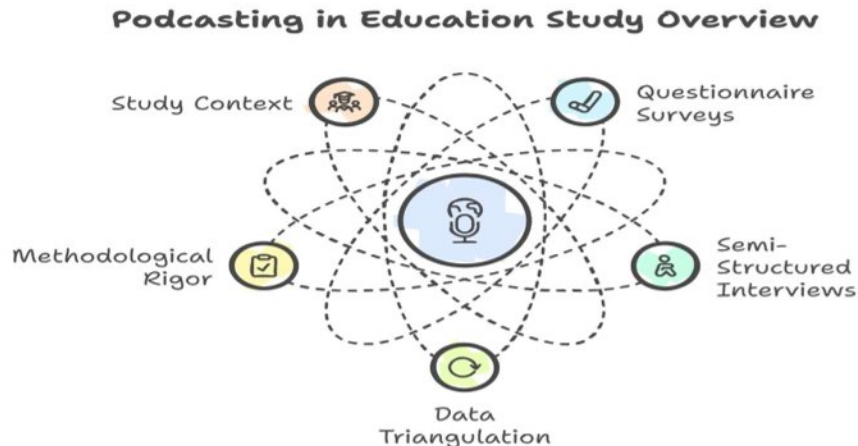
addition, educational opportunities must be equitable for all students, part of which means higher education institutions offering podcast episodes of appropriate quality and educational standards (Makina, 2019).

Methodology

Research Design

The research in this study utilised a mixed-methods approach, with both quantitative and qualitative data collection. This combination was particularly important for developing a deeper understanding of how podcasting affected an assessment of academic speaking. The quantitative aspects included questionnaire surveys, while the qualitative features were obtained through semi-structured interviews, which gave more detailed insights into participants' attitudes and experiences (Kay, 2012; "Using Podcasting," 2022).

Fig 5: Podcasting in Education Study Overview



Source: Compiled by the researcher

Data Collection

Questionnaire Survey

The questionnaire surveys were developed to collect data from larger groups of participants, two classes with 23 and 16 students respectively. The questionnaires considered key themes related to student motivation and perceptions of using pod-casting to assess students. Further, the data collection instrument was designed to acknowledge the anonymity of the student responses, hence encouraging authentic answers, while allowing for a systematic collection of data related to trends observed across the sample population ("Using Podcasting," 2022; Merhi, 2015).

Semi-Structured Interviews

In addition to a quantitative approach, the researchers interviewed nine students in semi-structured interviews. The semi-structured interviews had a thematic structure, and these thematic questions coincided with those presented in the questionnaires, but the semi-structured format ensured that students could respond in a spontaneous manner (Nortvig et al., 2018). The researchers sought to explore some of the nuances relating to a student's experience and

perceptions of the podcasting format and to glean a more robust approximate qualitative understanding of how the podcasting format impacts motivation and performance in an educational context ("Using Podcasting," 2022; Merhi, 2015).

Data Triangulation

While the research employed a quantitative approach, the scholar used a triangulation approach to improve the dependability and credibility of the findings. Several case studies were created, and data were collected from several sites. The data collection included podcast assignment formats, observational notes, and feedback forms as another data collection source. Triangulation was intended to make sketches of the several case view (Kay, 2012), which gave a more complete view of the research subject and formed a foundation to share findings back to the participants to validate interpretations ("Using Podcasting," 2022; Kay, 2012).

Methodological Rigour

At every stage of the process, the study refers back to the initial research question that framed the investigation: "How effective a means of assessing speaking ability

and communication skills may podcast assignments are and, how did students engage with this form of assessment” (“Using Podcasting,” 2022; McGarr, 2009). An audit trail was maintained for methodological accountability, which described what they did and when in the context of research rationales. An audit trail was also seen as vital for indicating the appropriateness, quality, and rigour while relying on assessment methods within the study (McGarr, 2009). The study also sought to assess how effective podcasting would be in validating students’ education-based speaking ability and communicative skills, related to motivation of students, in this case study of a new format for the assessment of speaking ability (Kay, 2012; “Using Podcasting,” 2022; McGarr, 2009).

Context of the Study

The research was carried out at a private engineering college in Hyderabad during an elective discussion workshop for third year students. The goal of this seminar was to help students improve their public speaking by engaging in realistic discussions on difficult topics. Because the instructor wanted to try something different than just assessing student learning using PowerPoint presentations, they decided to introduce podcasting as a ‘new’ pedagogical assessment approach that could give students an opportunity to think and express themselves in a safer, more private, more engaging context (Kay, 2012; “Using Podcasting,” 2022).

Findings

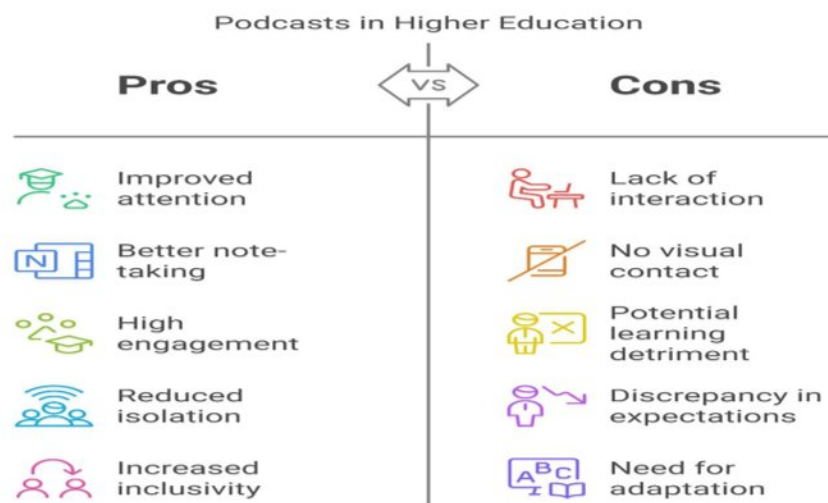
Student Perceptions of Podcasts

A study involving, 130 participants in an online undergraduate course, aimed at gaining a better understanding of ‘students’ perception of a podcast’ use, both positives and negatives. Results indicated that practical benefits related to the podcast experience, such as improved attention and note-taking were perceived as useful aspects of the use of podcasts. A significant negative noted by students was that podcast experiences lacked interaction and visual contact with others, which in some cases was detrimental to their learning experience (Hew & Cheung, 2012; Merhi, 2015).

Engagement and Learning Outcomes

Based on the findings of research studies, when podcasts are applied in the right way, it can promote positive behavioural, cognitive, and emotional engagement from students. When authors conducted a thematic analysis using engagement and self-determination theories, it indicated that students generally showed high levels of engagement with podcast-based speaking activities. This engagement can be attributed to both the autonomy presented by these activities, and the sense of community created by the instructor’s ongoing dialogue with students (Lee & Lui, 2024; Kay, 2012). Students also showed a clear desire to use more audio in their university learning experiences, and 53% of participants indicated they would use more audio learning approaches if they were offered (Locke et al., 2024).

Fig. 6: Pod casts Pros & Cons in Higher Education



Source: Compiled by the researcher

The Role of Technology in Bridging Gaps

Implementation of audio technology, including podcasts, has been described as an important innovation in open distance and e-learning (ODEL) contexts. Incorporation of this technology assists in reducing the transactional distance associated with distance learning, and decreases student feelings of isolation, and increases participant inclusivity (Makina, 2019). The implications of the findings of this study are relevant to both theoretical and pedagogical contexts, and suggest that inclusion of podcasts can greatly enhance the student learning experience, and support the learning environment, in higher education institutions (Parween et al., 2024b; Hew & Cheung, 2012).

Implications for Pedagogy

Even though the demand for audio-enabled learning is on the rise, there remains a discrepancy between the expectations of the students for input variation in the format of learning and the actual instructional prac-

tice exercised by universities. This points to the need for universities to respond and strengthen their audio-based offering for their student community (Locke et al., 2024; Kay, 2012). As the educational scenario continues to develop, more work is needed to explore the effectiveness of audio-centred learning approaches and how they can be adapted to meet the preferences and developmental needs of learners.

Discussion

Podcasts as a teaching device in higher education have potential gains and challenges both for curriculum designers and educators. For example, Jarvis and Dickie (2010) note that the findings of recent studies within education provide useful data that can influence future curricular designs and may create an opportunity for a turnaround in student performance decline. This study states that the present use of its proposals has pedagogical value for university educators' teaching experiences, but a more robust pedagogical framework is worthy of exploration (O'Flaherty and Phillips, 2015).

Fig. 7: Podcast Implementation in Higher Education



Source: Compiled by the researcher

While managing the efficacy of the podcasts as technologies can seem overwhelming, a properly structured approach to their implementation may assist institutions in making sure that their educational promises are maintained (Nortvig et al., 2018). Moreover, the costs of podcasts must justify investment by improving educational outcomes since the returns, when properly managed, give returns on the projections of technology investments (“Using Podcasting,” 2022; Hew and Cheung, 2012).

A podcast created with a conversational style and storytelling techniques can also increase the engagement of the learner. As stated, when a subject is clear and organised, learners can take in the information, and when a subject is storied, it becomes easier for learners to process complicated concepts (Pimmer et al., 2016). For instance, inviting participation via questions or prompts builds community and creates opportunities for immediate feedback which enriches the learning experience (Mei et al., 2025).

The study of podcasting experiences used a phenomenological design to explore how students experience and engage with podcasts across courses. The affordances of qualitative data gave a rich understand-

ing of participants’ experiences and let the study reveal ways that podcasts operate as a learning tool, especially their potential to appeal to a variety of learner backgrounds and preferences (Kay, 2012). In contrast, the study acknowledges that the current study had its limitations, including expanding the method, and equitable access to technology in order to immerse in the podcasting experience in education (Goldenberg-Barbosa et al., 2023).

Conclusion

The use of podcasts in higher education is a growth area in teaching and learning pedagogies, allowing for a flexible and engaging medium of learning. The relevant literature clearly shows the potential for educational podcasts in higher education to engage students, facilitate retention of knowledge, and create opportunities for success by catering for different learning preferences and flexible engagement with content that is accessible and on-demand. Podcasts lend themselves to motivational theories of learning, such as self-determination theory, which aims to support autonomy, competence, and relatedness to learning. On the other hand, it is important to understand other possible barriers to embedding podcasts into the curriculum. These challenges include the

technological infrastructure needed for effective podcast delivery and institutional support, while also maintaining equitable access across socioeconomic lines. It is also important for educators to consider the dangers of becoming too reliant on the use, as this may prevent higher levels of engagement common in traditional classrooms. In the foreseeable future, institutions of higher education should engage in more scholarship in order to develop podcasting as a valid pedagogy, and uphold the implementation of podcasting as well as audio materials as part of pedagogical approaches that promote learning. In summary, although podcasts present challenges, educators who implement them successfully can use their potential, inclusive, engaging, and effective learning environments by managing the complexities involved in integrating podcasts in higher education settings.

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