



Smartphone Use and Lecture Recording in Higher Education: A Systematic Review of Impacts on EFL Student Learning

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Abstract: This systematic review examines the use of smartphone use and recording functions by undergraduate EFL students in university classrooms and explores the educational benefits and challenges associated with this practice with particular attention to lecture recording. The study synthesizes empirical research published between 2016 and 2024 that investigates how audio and video recording of lectures support English language learning in higher education contexts. Following PRISMA guidelines, relevant studies were identified through searches in major academic databases including Scopus, ScienceDirect, and Google Scholar. After applying inclusion and exclusion criteria which were expanded to include studies of general smartphone use that provide contextual data on recording practices, nine empirical studies were selected for analysis. The findings suggest that students report improved listening comprehension when using recordings, enhanced speaking performance through video self-assessment, and greater learner autonomy through flexible access to recorded materials. Students benefit from the ability to revisit recorded lectures, review complex concepts, and monitor their language performance. However, several challenges were also identified, including classroom distraction, excessive reliance on recordings, and ethical concerns related to recording instructors and peers without consent. The review suggests that while smartphone recording can enrich EFL learning environments, its effectiveness depends on responsible use, institutional policies, and pedagogical guidance. The study concludes by proposing practical recommendations for educators and identifying directions for future research in mobile-assisted language learning.

Keywords: *EFL students, smartphone recording, English language learning, mobile-assisted language learning (MALL), higher education, systematic review*

1. Introduction

Digital technologies play a powerful role in shaping all areas of human activity, including education (Metruk, Klimszová, & Guziurová, 2025). Mobile learning, in particular, has come to dominate contemporary language education as a result of its ubiquity, accessibility, and growing acceptance among educators and learners alike. The rise of technology in education began approximately thirty years ago, and its continuous innovation continues to attract educators and reshape pedagogical practices across educational sectors (Al-Maashani & Mudhsh, 2023). When applied to language learning, mobile technologies such as smartphones are used by individuals from diverse racial, geographical, cultural, and educational backgrounds (Bilaca, 2016).

Integrating technology effectively into the classroom is possible when it is treated as any other tool designed to teach specific skills and concepts (Meneses, 2016). In higher education, technology is intended to spread, develop, apply, personalize, and extend the curriculum. The adoption of

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smartphones continues to outpace any other consumer electronic device; it was estimated that by 2021, over half of the world's population would own a smartphone (Jeronimo, 2017).

Ubben et al. (2023) argue that the increasing significance of digital learning tools in education has drawn attention to the role of mobile devices, particularly smartphones. As portable, user-friendly, and widely accessible tools, smartphones have become a central focus in educational research. Their versatility enables quick access to simulations, databases, and other resources highly valuable in classroom settings.

Wikström et al. (2022) highlight a fundamental tension in digitally equipped classrooms that the smartphone is simultaneously viewed as a source of valuable social and educational engagement and as an intrusive device that impedes desired forms of digitalization. Clayton and Murphy (2016) argue that when students use smartphones repeatedly for internet access, and with increasing emphasis on integrating technology into education, these devices can become effective allies for teachers in designing engaging lessons and enhancing global digital learning environments.

1.1. Statement of the Problem

The widespread use of smartphones in higher education has made lecture recording a common yet under-researched practice (Metruk, 2022; Ubben et al., 2023). While this practice offers potential benefits for language learning, it also raises concerns about classroom distraction, over-reliance on recordings, and ethical issues related to recording without consent (Akuratiya & Meddage, 2024). In EFL contexts, where repeated exposure to authentic language input is critical, the pedagogical implications of smartphone recording remain underexplored. Existing research has largely examined general smartphone use, failing to isolate lecture recording or address its unique implications for language learners (Ifeanyi & Chukwuere, 2018). Moreover, individual studies report mixed findings (Lin et al., 2021). There is, therefore, a pressing need to systematically synthesize empirical research to provide an evidence-based overview of how EFL students use smartphone recording, its educational impact, and the challenges to be addressed. This study addresses this gap through a systematic review.

1.2. Research Objectives

The present study aims to:

- Examine how university EFL students use smartphones in classrooms, with particular attention to lecture recording functions.
- Identify the educational benefits perceived by students of smartphone lecture recording in EFL learning.
- Investigate the challenges associated with smartphone recording in university classrooms.
- Provide pedagogical recommendations for integrating smartphone recording into language education.

2. Literature Review

2.1. Mobile Learning

Wingkvist and Ericsson (2011) describe mobile learning as an emerging area of research. Early studies on mobile learning began in the late 1990s, and the first international conference dedicated to the field. Naz, Rasheed, and Rasheed (2019) note that the adoption of mobile technology in the 21st century led to the emergence of Mobile-Assisted Language Learning (MALL), which employs mobile devices for language learning. They explain that mobile learning individualizes education, creating a more learner-centered experience that enables learning in both formal and informal contexts. Similarly, Dias and Victor (2022) observe that with the arrival of portable, user-friendly, and cost-effective digital tools, particularly smartphones, many educational institutions, including

universities, are rapidly integrating mobile learning into their classrooms, especially for EFL learners.

Crompton (2013) defines mobile learning as a “learning process that takes place across various contexts through interaction with both content and peers, facilitated by personal electronic devices. It can be formal, self-directed, or spontaneous, allowing learning to happen both inside and outside the classroom” (p. 4). Sisouvong and Pasanchay (2024) highlight learner-centeredness as one of the major advantages of mobile learning, as it provides personalized pedagogical experiences tailored to individual learners’ needs and preferences. They further note that traditional education systems often struggle to accommodate the diverse requirements of students who seek flexible schedules and customized content.

Alzaza and Yaakub (2011) view mobile learning as an extension of e-learning made possible through mobile technologies that allow teachers and students to engage in the learning process anytime, anywhere. They predict that the use of wireless mobile technology in higher education will continue to expand and eventually become the preferred learning environment. Similarly, Ally (2013) observes that while developed countries are transitioning from desktop-based to mobile technologies, many developing countries are bypassing desktop computers entirely and adopting mobile technologies directly, largely because desktops are less affordable.

2.2. Smartphones

The term “smartphone” was initially introduced as a marketing strategy to describe a new category of mobile phones that combined multiple communication services (Sarwar & Soomro, 2013, as cited in Zheng & Ni, 2006). According to Ifeanyi and Chukwuere (2018), smartphones are equipped with various multimedia features—such as cameras, sound recorders, and video functions—that can effectively enhance and support students’ learning processes. Gharaibeh and Gharaibeh (2020) emphasize that with rapidly evolving technology, global demand for smartphones continues to rise, largely due to their attractive features. This growing popularity has increased demand for mobile learning and contributed to transformations within university education systems.

Sarwar and Soomro (2013, as cited in Techterms.com, 2010) describe smartphones as mobile devices with advanced capabilities that exceed basic calling and texting. These devices are equipped with a wide range of functions, including photo display, gaming, video playback, navigation, built-in cameras, audio and video recording, and pre-installed applications for social networking.

Bui et al. (2023) note that the increasing development of mobile technology and growing demand for it have paved the way for mobile devices to be integrated into education in recent years. As cited in Dashtestani (2016), they point out that mobile devices, particularly smartphones, provide numerous benefits that can enhance language learning and improve instructional quality, largely through the widespread availability of language learning applications. However, they caution that extensive use of smartphones and applications can impact students both positively and negatively.

Khurana and Frishman (2022) report that note-taking is an essential skill practiced in daily life, from writing a grocery list to recording key points from a lecture in class. Though these tasks may seem unrelated, they all utilize note-taking as a tool to memorize information by transferring it into a visual form to be revisited later.

2.3. Positive Features of Smartphone Use in Education

Gowthami and Kumar (2016) affirm that smartphones have influenced nearly every aspect of human life, particularly in areas such as business, education, health, and social interaction.

Connectivity and Access to Resources

Fast connectivity enables students to easily access educational resources, making smartphones especially suitable for distance learning (Gowthami & Kumar, 2016). Similarly, Uren and Courage (2024) reveal a positive relationship between students’ engagement with mobile phones and their classroom learning, indicating that factors such as gender and age positively moderate this correlation.

Fieldwork and Documentation

Park (2011) highlights that mobile devices facilitate fieldwork by eliminating the need for paper, providing quick access to information, and offering built-in cameras for documentation. Learners can save notes directly on their devices and upload them via wireless internet. Likewise, Jesse (2016) identifies additional educational benefits of smartphone use, including reduced paper waste, enabling long-term information storage, and ensuring access to knowledge anytime and anywhere.

Flexibility and Learner Autonomy

Dzamesi et al. (2019) emphasize that smartphones enable learners to study and practice anytime and anywhere due to their portability. This flexibility not only fosters confidence and active participation in classroom discussions but also lays the foundation for independent learning and reduces overreliance on teachers. By using smartphones, students can construct knowledge outside the classroom and build personal experiences that enrich formal learning. Chinnery (2011) identifies a major advantage of mobile media: learners can easily engage with small portions of content outside the classroom at their own pace, increasing convenience. In the same context, Kibona and Mgaya (2015) stress that smartphone multimedia features—such as cameras, videos, sound recording, and podcasting—are highly advanced and rival specialized equipment.

Remote Access to Learning Platforms

Bala (2020, as cited in Hartnell & Heym, 2008) indicates that smartphones enable learners to remotely connect to school learning platforms, record teachers' lectures, and access online revision resources. Furthermore, they provide opportunities to receive lectures virtually, download materials in various formats (video, audio, or text), and engage in learning anytime and anywhere.

2.4. Negative Features of Smartphone Use in Education

Zixue and Dai (2022) observe that smartphones, by integrating computing, portability, and mobility into a single interface, are highly susceptible to problematic use, which can result in various negative consequences. Strong attachment to mobile phones has a significant impact on classroom learning, prompting researchers to recommend that policymakers regulate phone usage to minimize adverse effects (Urien & Courage, 2024). Addiction is an increasing concern among university students, as many become overly dependent on mobile applications, often downloading and using multiple apps even without internet access (Kibona & Mgaya, 2015). Students are often disrupted by unrelated activities, such as watching videos, playing online games, or engaging in social networking, when using mobile devices for learning inside the classroom (Alrefaai, 2019). Mobile phones facilitate cheating, as students can easily access dictionaries, translations, or answers during quizzes and tests (Alrefaai, 2019). Similarly, Lin et al. (2021) explain that college students have been widely discouraged by the integration of smartphones in education, as many studies have shown a strong negative effect on academic performance despite the growing integration of these devices into daily life. The real issue sometimes lies in the way these devices take over functions that the human brain is naturally capable of performing (Sarwar & Soomro, 2013).

3. Research Methodology

3.1. Research Design

This study employed the systematic literature review method to synthesize empirical research on the use of smartphones for recording lectures in EFL university classrooms. Systematic reviews aim to identify, evaluate, and interpret existing research related to a specific research question using transparent and replicable procedures. According to Hart (2018), as cited in Nuryadin and Marlina (2023), a systematic literature review is a systematic process involving the collection, evaluation, and synthesis of information relevant to a specific research question. The review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines to ensure methodological transparency and rigor.

3.2. Research Strategy

A comprehensive literature search was conducted across major academic databases to identify relevant studies. The following databases were used:

- Scopus
- ScienceDirect
- Google Scholar

These databases were selected because they provide extensive coverage of peer-reviewed research in education and applied linguistics.

The search focused on studies published between 2016 and 2024 in order to capture recent developments in mobile-assisted language learning.

The search strings included combinations of the following keywords:

- "EFL students"
- "smartphone"
- "lecture recording"
- "audio recording"
- "video recording"
- "mobile-assisted language learning"
- "higher education"

An example search string used in the databases was:

("EFL students" OR "English as a foreign language") AND ("smartphone" OR "mobile phone") AND ("lecture recording" OR "audio recording" OR "video recording") AND ("higher education" OR "university")

3.3. Inclusion and Exclusion Criteria

Inclusion Criteria

Studies investigating general smartphone use in EFL classrooms are included only if they explicitly address recording functions as one aspect of use or provide data relevant to understanding the recording practice context. Studies were included in the review if they met the following criteria:

- Published between 2016 and 2024
- Written in English
- Published in peer-reviewed journals or conference proceedings
- Focused on EFL learners in higher education
- Investigated the use of smartphone recording functions (or general smartphone use with explicit relevance to recording practices)
- Reported empirical findings

Exclusion Criteria

Studies were excluded if they:

- Focused on primary or secondary education
- Did not involve smartphone recording functions or provide relevant contextual data for recording practices
- Were non-empirical publications (e.g., opinion articles or editorials)
- Were duplicates

3.4. Study Selection Process

The initial search identified 520 publications across the selected databases. After removing duplicates (n=74), 446 studies remained for title and abstract screening. After screening titles and abstracts, 86 studies were retained for further review (360 studies excluded: 187 focused on K-12 education; 142 addressed general mobile learning without specific relevance to classroom recording or EFL; 31 were non-empirical opinion pieces). Full-text screening was conducted to assess eligibility based on the inclusion criteria (68 studies excluded: 42 contained no recording-specific data; 15 focused on wrong population; 11 were non-empirical). Following this process, nine studies

were selected for the final analysis. The selection procedure followed the PRISMA framework, including the stages of:

- Identification
- Screening
- Eligibility
- Inclusion

3.5. Data Extraction and Analysis

Of the 435 studies removed after title screening: 187 focused on K-12 education; 142 addressed general mobile learning without specific relevance to classroom recording or EFL; 68 were non-empirical (opinion pieces, editorials); 38 were duplicates.

The selected studies were analyzed using thematic synthesis. Relevant information from each study was extracted, including: (authors; year of publication; country; research design; sample size; main findings).

All screening and data extraction were conducted by the first author. A second reviewer did not independently verify study selection or quality assessment, which introduces potential selection bias.

The findings were then categorized into thematic groups reflecting:

- purposes of smartphone recording
- perceived educational benefits
- challenges and limitations

4. Results and Synthesis

This systematic review synthesizes evidence from nine empirical studies published between 2016 and 2024 that investigate the use of smartphone recording functions by undergraduate EFL students in university classrooms along with studies of general smartphone use that provide contextual data on classroom recording practices. The synthesis is organized to facilitate a comprehensive analysis of the purposes, educational benefits, and challenges associated with this practice, identifying key patterns and implications for mobile-assisted language learning.

4.1. Overview of Included Studies

The study selection process followed the PRISMA 2020 guidelines and is detailed in Figure 1. The initial identification search through electronic databases yielded a total of 520 articles for possible inclusion (Scopus: 187; ScienceDirect: 203; Google Scholar: 130). Search parameters limited results to articles published between 2016 and 2024, peer-reviewed journal articles, and excluded duplicates. After removing duplicates (n=74) and irrelevant studies through title screening (n=360 excluded), 86 studies were retained. Consequently, 86 potentially relevant studies were retained for further review (then 68 excluded at full-text, leaving n=9).

Figure 1. PRISMA 2020 Flow Diagram of the Study Selection Process

4.2. Characteristics of the Selected Studies

A total of 9 studies were included in this review, conducted between 2016 and 2024 across various countries such as Indonesia, Turkey, Bangladesh, USA, Sri Lanka, Chad, Algeria, Afghanistan and Azerbaijan. The studies employed quantitative, and mixed-methods approaches, with participants primarily being university-level EFL students who used smartphones to record lectures or speaking and listening tasks and lecturers who allow use of smartphone for learning purposes only as shown in Table 1 below:

Table 1. Characteristics of Included Studies (2015–2025)

No.	Author/s (Year)	Country	Main Objectives	Study Design	Sample	Key Findings Related to Smartphone Recording
1	Talha, B., & Dorbane, Z. (2020)	Algeria	To examine the use of audio recording by English for Medical Purposes (EMP) students and its effect on learning.	Mixed-Methods	150 second-year students	Students reported that audio recording positively influenced student performance, aiding lecture comprehension, recall, and the ability to “re-visualize” the class.
2	Mammadova (2018)	Azerbaijan	To examine the extent to which modern classrooms can benefit from smartphones and mobile apps.	Quantitative	204 undergraduate students	Smartphone functions like note-taking, photos of the board, and video recordings are integral to the modern classroom, though off-task use (social media) causes distraction. This study examines general smartphone use rather than recording exclusively.
3	Akuratiya, D. A., & Meddage, D. N. R. (2024)	Sri Lanka	To examine the impact of smartphone usage on the academic performance of tertiary students.	Quantitative	150 second-year students	Over 70% use smartphones positively for learning (new words, accessing course info). However, excessive use hinders attention, increases distraction, and reduces study time, impacting academic performance. This study examines general smartphone use rather than recording exclusively.
4	Dzakiah, S., Assiddiq, M. A., & Mustari, S. H. (2020)	Indonesia	To investigate the effectiveness of smartphone video recordings in enhancing speaking performance.	Quasi-experimental	50 second-grade students	Students using smartphone recordings showed perceived significant improvements in speaking skills and expressed high interest in the method.
5	Hasan, M., Karimuzzaman, M., Abdulla, F., & Hossain, M. M. (2024)	Bangladesh	To find the effects of mobile phones on students’ academic results and their perception of using them as a learning tool.	Quantitative	385 university students	Positive features identified include recording lectures, study support, and to-do lists. However, various types of distractions negatively impact academic performance. This study examines general smartphone use rather than recording exclusively.
6	Hussain, T., Basu, & D’Silva (2018)	USA	To explore medical students’ perceptions of using lecture recording software.	Quantitative	105 medical students	Students used recordings to understand missed points, relearn complex concepts, and rewrite notes. It was seen as a useful academic resource, especially for those who missed class.
7	Roland, A. (2022)	Chad	To investigate how EFL students perceive the usefulness of smartphones for learning English and how they use them.	Quantitative	513 university students	Smartphones are used to access academic information and record notes. They serve as effective supplementary tools, promoting learner autonomy and flexibility.
8	Wali, A. Z., & Omaid, M. E. (2020)	Afghanistan	To study lecturers’ perceptions toward the use of smartphones as an educational tool in the classroom.	Quantitative	50 university lecturers	Lecturers allow smartphone use for educational functions (notetaking, recording) but ban social media. They perceive the educational use of smartphones as beneficial for student learning.
9	Alanoğlu, M., & Karabatak, S. (2020)	Turkey	To investigate students’ usage of smartphones	Quantitative	577 undergraduate students	Students use phones for lecture-irrelevant purposes (social media, messaging) which causes distraction.

No.	Author/s (Year)	Country	Main Objectives	Study Design	Sample	Key Findings Related to Smartphone Recording
			during lectures, including frequency, purpose, and reasons for use.			They may also use them to take pictures of the board or record, turning the phone into a learning resource. This study examines general smartphone use rather than recording exclusively.

4.3. Synthesis of Findings

The thematic synthesis of the nine selected studies revealed three main themes: (1) purposes of smartphone recording in EFL classes, (2) perceived educational benefits, and (3) challenges and drawbacks associated with this practice.

4.4. Purposes of Smartphone Use in EFL Classes

The reviewed studies investigated students' utilization of smartphones in EFL undergraduate classes, as well as medical students who used smartphone recording applications to record face-to-face lectures for learning purposes similar to EFL students. The following purposes were consistently identified across the literature:

Recording lectures for later review and comprehension emerged as the primary purpose across multiple studies (Talha & Dorbane, 2020; Hasan et al., 2024; Roland, 2022). Students reported using recordings to capture new vocabulary, access key course information, and review complex lecture material at their own pace outside the classroom.

Audio recording specifically enabled students to better understand lectures and grasp concepts that may have been missed during real-time instruction. Talha and Dorbane (2020) found that audio recordings helped students remember content addressed during class and allowed them to "visualize themselves back at the time of recording," facilitating deeper cognitive engagement with course material.

Video recording served primarily for self-assessment of speaking performance. Dzakiah et al. (2020) reported that students used video recordings to monitor their pronunciation and fluency, identifying areas for improvement that might otherwise go unnoticed. This self-monitoring function proved particularly valuable for developing oral communication skills.

Note-taking support was another significant purpose. Students with difficulties processing information in real-time used recordings to revisit lectures and fill gaps in their notes (Hussain et al., 2018; Mammadova, 2018). Additionally, some students utilized smartphone recordings as study aids, creating reminder to-do lists and accessing course materials for structured revision (Hasan et al., 2024).

4.5. Perceived Educational Benefits

The synthesis of findings revealed several consistent benefits associated with smartphone lecture recording in EFL contexts.

Enhanced Lecture Comprehension and Retention

Audio recording of lectures positively influenced student performance across multiple dimensions. Talha and Dorbane (2020) found that students who recorded lectures demonstrated better understanding of course content and improved recall of information presented in class. The ability to revisit recorded lectures allowed students to reinforce their learning and clarify concepts that may have been unclear during initial instruction.

Improved Speaking Performance

Smartphone video recordings significantly enhanced speaking performance among EFL students. Dzakiah et al. (2020) reported that students who utilized smartphone recordings showed significant

improvements in speaking skills compared to those who did not. Students expressed high interest in this method, suggesting that video recording serves as both an effective and engaging learning tool. The ability to self-assess pronunciation and fluency through playback enabled students to identify and correct errors independently.

Learner Autonomy and Flexibility

Smartphones served as effective supplementary tools in language learning, promoting autonomy and flexibility (Roland, 2022). Students accessed relevant content anytime and anywhere, complementing material covered in large lecture settings. This flexibility allowed learners to engage with language learning resources at their own pace, fostering independent learning behaviors. Roland (2022) emphasized that smartphones are significant digital devices for English language learners to access language resources beyond the constraints of time and location.

Positive Impact on Academic Performance

Several studies reported positive associations between smartphone use and academic outcomes. Hasan et al. (2024) identified positive features including lecture recording, study support, and reminder to-do lists that contributed to improved academic performance. Hussain et al. (2018) found that lecture recording software helped students understand key points they missed in class, relearn complex concepts, and rewrite class notes. Students particularly valued the accessibility of recordings beyond university grounds, which allowed them to listen to lectures at their own pace and ultimately score better on examinations.

Integration into Modern Classroom Practices

Mammadova (2018) revealed that smartphone functions—including note-taking, photographs of whiteboards, video recordings, and applications such as WhatsApp—have become integral parts of the modern, technology-supplied classroom. Wali and Omaid (2020) found that instructors generally support smartphone use for educational purposes, allowing functions such as audio and video recording, note-taking, and internet browsing while restricting social media access during class time.

4.6. Challenges and Drawbacks

Despite the documented benefits, the reviewed studies also identified significant challenges associated with smartphone recording in EFL classrooms.

Excessive smartphone use emerged as a primary concern across multiple studies. Akuratiya and Meddage (2024) found that smartphone overuse can hinder students' attention, increase distraction, and reduce study time, ultimately impacting academic performance. Although more than 70% of respondents in their study used smartphones positively for learning new words and accessing course information, the potential for distraction remained significant.

Students were frequently disrupted by lecture-irrelevant activities, including accessing social networks, sending messages, and chatting during class time (Mammadova, 2018; Hasan et al., 2024; Alanoğlu & Karabatak, 2020). These off-task behaviors not only distracted the individual student but potentially disrupted surrounding peers as well.

A subtler but equally important concern involves over-reliance on recordings at the expense of active cognitive engagement. When students depend heavily on recorded lectures, they may engage less actively during class, assuming they can simply review the material later. This reduced mental involvement during initial instruction may undermine deeper learning and comprehension.

The relationship between smartphone use and academic outcomes appears complex and likely moderated by factors such as usage patterns, self-regulation, and instructional context. Several studies raised ethical issues regarding recording without consent. Students recording lectures may inadvertently capture instructors or peers without permission, raising privacy concerns that require clear institutional policies. Wali and Omaid (2020) noted that while instructors support educational smartphone use, they emphasize the need for guidelines to govern appropriate use.

5. Discussion

The findings of this systematic review highlight the growing role of smartphones, particularly their recording functions, in supporting EFL students' learning in university classes. The reviewed studies consistently demonstrate that smartphone recordings serve as valuable tools for reinforcing classroom instruction, enhancing language skills, and promoting learner autonomy (Roland, 2022).

However, a critical caveat applies to all findings reported in this review: most included studies measured student or instructor perceptions rather than objective learning outcomes. Self-report data are valuable for understanding user experiences but cannot establish causal relationships between smartphone recording practices and language development.

The study reveals that most EFL students use both video and audio recording in the classroom to practice and improve their speaking and listening skills, thereby increasing fluency. This aligns with Dzakiah, Assiddiq, and Mustari (2020), who found that students can monitor themselves on video recordings to avoid mispronouncing words. Furthermore, students can repeatedly listen to their lecture recordings at home to concentrate on main points they missed during class. This agrees with Hussain, Tabrez, Basu, and D'Silva (2018).

A critical caveat applies to the findings discussed in this section: the majority of included studies measured student or instructor perceptions rather than objective learning outcomes. Self-report data are valuable for understanding user experiences but cannot establish causal relationships between smartphone recording practices and language development.

One of the most significant findings is the positive impact of recording lectures and speaking tasks on listening comprehension and speaking fluency. Several studies noted that students benefited from the ability to reconsider recorded content at their own pace, allowing for deeper understanding of complex vocabulary, grammar structures, and pronunciation features. This aligns with Mobile-Assisted Language Learning (MALL) principles, which emphasize flexibility, learner control, and accessibility (Kukulka-Hulme & Shield, 2008).

Regarding negative impacts, a key concern identified in this review is the potential for overreliance on recordings, which can lead students to neglect active note-taking or class participation and increase distraction. This finding agrees with Akuratiya and Meddage (2024). Different types of distractions have an adverse effect on students' academic performance. Students are distracted during classes due to lecture-irrelevant use of smartphones, such as accessing social networks, sending messages, and chatting (Mammadova, 2018; Alanoğlu & Karabatak, 2020). Additional challenges that EFL learners face in the classroom include ethical issues such as recording peers or instructors without permission. These concerns highlight the need for clear institutional policies and classroom agreements on smartphone use (Wali & Omaid, 2020).

The findings of this review both align with and extend previous research on Mobile-Assisted Language Learning. While earlier studies have established the general benefits of mobile devices in language learning (Kukulka-Hulme & Shield, 2008; Crompton, 2013), this review provides a focused synthesis on the specific practice of lecture recording, detailing its unique affordances, such as self-assessment through video playback, and its specific challenges, particularly the heightened potential for in-class distraction.

5.1. Quality Assessment of Included Studies

Table 2. Quality Assessment of Included Studies (adapted from MMAT criteria)

Study	Design	Sample Size	Validated Instrument	Risk of Bias	Key Limitation
Talha & Dorbane (2020)	Mixed	150	Partial	Moderate	Self-report only
Mammadova (2018)	Quantitative	204	No	Moderate	No learning outcome measure

Study	Design	Sample Size	Validated Instrument	Risk of Bias	Key Limitation
Akuratiya & Meddage (2024)	Quantitative	150	No	Moderate	Cross-sectional; self-report
Dzakiah et al. (2020)	Quasi-experimental	50	Yes	Low-Medium	Small sample; single institution
Hasan et al. (2024)	Quantitative	385	No	Moderate	Self-report perceptions
Hussain et al. (2018)	Quantitative	105	No	Moderate	Medical students (not typical EFL)
Roland (2022)	Quantitative	513	No	Moderate	Self-report only
Wali & Omaid (2020)	Quantitative	50 lecturers	No	Moderate	Instructor perspective only
Alanoğlu & Karabatak (2020)	Quantitative	577	Yes	Low-Medium	Not recording-specific

5.2. Contextual Limitations and Cultural Factors

The geographical concentration of included studies (eight of nine from Asia, the Middle East, or North Africa) limits generalizability to Western, European, Latin American, or East Asian educational contexts. Cultural attitudes toward smartphone use in classrooms, instructor authority, student autonomy, and privacy expectations vary significantly across regions. For example, norms regarding recording instructors without explicit permission may differ between the surveyed contexts and countries with stricter intellectual property enforcement. Future research should examine smartphone recording practices in under-represented regions before assuming cross-cultural applicability of these findings.

5.3. Ethical Frameworks for Classroom Recording

Three ethical domains require institutional attention. First, informed consent necessitates that students obtain explicit permission from instructors before recording and, when recordings may capture peers, from fellow students. Passive consent (assuming permission unless denied) is insufficient. Second, intellectual property considerations arise when recordings capture instructor-generated content (lecture slides, explanations, examples). Some institutions treat lecture content as instructor IP, restricting redistribution. Third, data security concerns include where recordings are stored (personal devices vs. institutional servers), who can access them, and whether deletion is required after course completion.

Institutional policies vary considerably. The University of California system requires instructor approval for any lecture recording. UK universities generally permit recording for personal study but prohibit sharing. Among the countries represented in this review, no standardized policies were reported in the included studies. Wali and Omaid (2020) note that Afghan instructors support educational recording but emphasize the need for classroom-level agreements. Clear, accessible policies that balance educational benefits with privacy protections are urgently needed as smartphone recording becomes ubiquitous.

6. Limitations

This systematic review is constrained by several limitations inherent in primary literature and the review process itself. First, the review is limited to three reputable online databases which, while comprehensive, may have excluded relevant studies indexed in other databases. Second, the search was restricted to studies published between 2016 and 2024, potentially omitting earlier foundational research that could provide valuable historical context. Third, the review focused exclusively on

undergraduate EFL students, limiting the generalizability of findings to other educational levels such as secondary or primary education. Fourth, only peer-reviewed studies published in English were included, which may introduce publication bias and exclude relevant non-English research or grey literature. Fifth, there is a geographical imbalance in primary literature, with a predominance of studies from specific regions, which may limit the applicability of findings to other cultural and educational contexts. Finally, this review was systematic but not exhaustive, and the small number of included studies (n=9) highlights the scarcity of empirical research specifically focused on smartphone lecture recording in EFL contexts.

Four of the nine included studies examine general smartphone use rather than recording exclusively. These studies were retained because they provide contextual data on classroom smartphone behaviors that inform understanding of recording practices, but readers should interpret findings with this distinction in mind.

Additional limitations not previously acknowledged include: (a) the absence of dual-reviewer screening, introducing potential selection bias; (b) the lack of systematic quality assessment weighting in the synthesis; (c) potential publication bias inherent in restricting to peer-reviewed English-language studies; and (d) the predominance of self-report perception data over objective learning outcome measures across the included studies. These methodological constraints mean the review is better positioned to identify student and instructor perceptions than to establish causal effects on language development.

7. Recommendations

Based on the reviewed literature and the synthesis of findings, the following recommendations are proposed for educators, institutions, and future researchers:

Recommendations for Classroom Practice and Policy

- Institutions should develop and enforce clear policies regarding classroom recording, including protocols for obtaining consent from instructors and peers to ensure ethical use and protect privacy.
- Teachers should guide students on how to effectively use recordings for revision without becoming overly dependent on them. This includes teaching students to use recordings as a supplement to, rather than a replacement for, active class participation and note-taking.
- Professional development programs should equip instructors with strategies for integrating smartphone-assisted learning into their teaching practices, including how to manage potential distractions and leverage recording functions for pedagogical purposes.
- Educators can transform passive recording into active language practice by designing purposeful assignments such as video reflections, speaking vlogs, pronunciation diaries, or collaborative projects that utilize smartphone recording capabilities.
- Instructors should establish ground rules for smartphone use in their classrooms, set specific times for educational use, monitor student activity, and explain the rationale behind minimizing off-task distractions.

Recommendations for Future Research

- Given the limited number of studies in this review, more empirical research is needed to establish causal relationships between smartphone recording use and language development outcomes.
- Future research should investigate smartphone recording practices in under-represented regions and diverse educational contexts (e.g., secondary schools, language institutes, online learning environments) to enhance the generalizability of findings.
- Further studies should explore instructors' attitudes, concerns, and pedagogical strategies regarding student smartphone use, as well as institutional policies that shape these practices.
- Longitudinal research is needed to assess the long-term effects of smartphone recording on language proficiency, learner autonomy, and academic performance over extended periods.
- Future research should develop and validate measurement tools specifically designed to assess smartphone recording practices and their outcomes in diverse cultural and educational contexts.

8. Conclusion

This systematic review synthesized nine studies (2016–2024) on smartphone lecture recording in EFL university classrooms. Based on self-reported data, findings suggest that recording is associated with enhanced listening comprehension, speaking performance, and learner autonomy by enabling students to revisit lectures, review concepts, and self-assess their language production (Dzakhiah et al., 2020; Talha & Dorbane, 2020; Roland, 2022). These perceived benefits align with MALL principles of flexibility and learner control (Kukulska-Hulme & Shield, 2008; Crompton, 2013). However, significant challenges persist, including classroom distraction, overreliance on recordings, and ethical concerns about recording without consent (Akuratiya & Meddage, 2024; Alanoğlu & Karabatak, 2020; Lin et al., 2021). Students frequently engage in off-task activities such as social media use during class (Mammadova, 2018; Hasan et al., 2024). The smartphone is neither a panacea nor a problem—its educational value depends on how it is used (Clayton & Murphy, 2016; Wikström et al., 2022). Effective integration requires clear institutional policies and pedagogical guidance. With only nine studies identified, further longitudinal and experimental research is strongly recommended.

9. References

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