CHAPTER 1

INTRODUCTION

1.1 Preamble

Within the ever-evolving tapestry of demographics and the dynamic shifts in educational paradigms, the Republic of India is a witness to profound changes in its educational terrain. These metamorphoses are not isolated but are intricately interwoven with significant strides in educational infrastructure. A pivotal facet of this transformative journey lies in the irrefutable assimilation of the English language into the fabric of Indian education. This assimilation is propelled by the acknowledgement of English language proficiency as an immediate imperative and a foundational prerequisite contributing to the multifaceted growth of the Indian economy.

The pedagogy of language and the strategies employed for the acquisition of the English language depict a spectrum reflective of the vibrancy inherent in the educational landscape. While the traditional classroom-based instructional methodology endures as a time-honoured yet entrenched approach to language acquisition, the amalgamation of technology and digitization has ushered in contemporary and sophisticated language acquisition methodologies. Across the sands of time, a continuum of technological enhancements has redefined language education, traversing from the era of radio and television to the prevalence of floppy discs, CD drives, flash drives, and the omnipresence of cloud-based data storage. Concurrently, there has been a gradual evolution from traditional projectors to more avant-garde devices such as computers, laptops, and mobile phones.

The symbiotic convergence of the internet with mobile communication technologies has notably eased the process of language acquisition. Mobile learning, succinctly referred to as ‘M-learning, ‘eradicates the shackles of physical confinement to a specific location, effectively dismantling barriers to educational accessibility. The omnipresence of smart devices, regardless of age demographics, has fostered a technologically adept populace capable of

engaging in self-directed English language acquisition through their handheld devices.

M-learning, positioned as an innovative pedagogical approach, serves to amplify the learning experience. It empowers individuals to record lectures and access instructional videos at their discretion, thus diminishing the reliance on traditional classroom setups. Moreover, m-learning emancipates individuals from the temporal constraints of school hours, enabling them to effortlessly download and revisit audio-visual lectures during their leisure. The ubiquity of mobile phones substantiates the virtual mode of learning, commonly identified as ‘m-learning, ‘which not only optimizes time but also conserves invaluable resources and energy. M-learning emerges as a catalyst propelling educators and scholars to delve deeper into the amalgamation of technology and digital media within the realm of language pedagogy.

The forthcoming sections will critically examine the various dimensions of this intricate relationship between technology, language acquisition, and educational paradigms in the context of India’s journey towards a digitally empowered linguistic landscape. The critical analysis will unravel the nuances, challenges, and potential avenues that this integration presents for educators, learners, and the broader educational ecosystem.

In tandem with the perpetual evolution of technology, portable devices have undergone a series of profound transformations. These gadgets, ranging from traditional laptops to the emergence of notebook computers, tablets, iPads, and an array of contemporary technologies collectively denoted as ‘mobile devices,’ encompass an extensive spectrum, including smartphones, gaming consoles, media players, netbooks, and handheld computers (Traxler 04). The ubiquitous utilization of mobile phones has ushered in innovative possibilities for both educators and learners. The integration of mobile phones into the instructional process within the sphere of language education is encapsulated within the framework of Mobile Assisted Language Learning (MALL).

As the convergence of technology, language pedagogy, and mobile learning unfolds within the educational landscape of India, this research seeks to critically evaluate the efficacy of Mobile Assisted Language Learning

(MALL) in facilitating the acquisition of the English language. Through a meticulous examination of digital pedagogical modalities and the impact of mobile learning technologies, this scholarly investigation aims to contribute substantially to the overarching discourse on effective language education within the contemporary educational context in India.

1.1.1 Background of the Study: Unravelling the Evolution of Mobile Learning in English Language Teaching (ELT)

In the ever-evolving landscape of education, the integration of technology has been a transformative force, reshaping traditional teaching paradigms. This study embarks on a historical exploration, tracing the intellectual journey of various scholars over several decades to understand the profound impact of mobile learning in English Language Teaching (ELT). The overview delves into the perspectives articulated by these scholars within the realms of technology and digital learning, offering insights into the evolutionary trajectory of mobile learning in the context of English language education.

The inception of this journey harks back to the early scholars who laid the foundation by recognizing the potential of technology to enhance conventional teaching methodologies. The advent of computers marked a pivotal moment, and as the internet proliferated, new possibilities for language learning emerged. This period witnessed the initial steps toward integrating digital tools into language classrooms, setting the stage for subsequent advancements.

As the digital landscape continued to evolve, a game-changing development unfolded with the introduction of mobile devices. Smartphones and tablets, ubiquitous in daily life, became potent tools that transcended the constraints of traditional learning environments. Learners gained the unprecedented ability to carry their language lessons in their pockets, breaking free from the limitations of physical classrooms. Scholars responded to this shift, delving into the distinctive advantages offered by mobile learning, such as flexibility, accessibility, and personalized learning experiences.

The intersection of mobile learning and ELT emerged as a focal point for researchers, educators, and policymakers alike. Scholars embarked on

explorations into the effectiveness of Mobile-Assisted Language Learning (MALL) methodologies, investigating the impact of mobile devices on language acquisition, communication skills, and overall language proficiency.

> Easier access to interesting online resources and more synchronous tools allowed for (at first) text-based chat and email exchanges between classes and learners in different parts of the world….Today, voice chat programs such as Skype, incorporating more collaborative features such as video chats, screen sharing, and application sharing, means that international class projects are more accessible and popular than ever before (Dudeney and Hockly 536).

The backdrop of this study is enriched by the invaluable contributions of scholars who have paved the way for a nuanced understanding of the intricate relationship between technology, mobile learning, and English language education. By examining the insights and theories articulated by these visionaries, this research seeks to contribute to the ongoing discourse surrounding the integration of mobile learning in ELT. The historical context serves as a foundation for a detailed exploration of the contemporary landscape, where the fusion of mobile technology and language pedagogy continues to shape the future of English language education.

1.1.2 Statement of the Problem: Bridging the English Language Proficiency Gap in the Indian Educational Landscape through Mobile Learning

In the complex tapestry of the Indian educational landscape, the English language assumes a role synonymous with prestige and societal standing. Proficiency in English is not merely a skill; it is often considered a pivotal asset, particularly in the pursuit of high-tier employment opportunities. Recent observations reveal a distinct advantage for students fluent in spoken English, as they exude greater confidence in placement interviews compared to their counterparts. However, the crux of the matter lies in the fact that English functions as a second language for a significant majority of Indian students. This linguistic divide is exacerbated by the natural inclination of students towards their native languages, predominantly the medium of

instruction within the classroom setting. This preference for regional native languages hinders the mastery of English, creating a pronounced disparity in English language proficiency among Indian students.

Compounding this challenge is the situation in rural and remote regions, where a substantial number of students lack foundational skills necessary for reading and writing in English. This stark rural-urban divide further restricts access to quality English language education.

In an era marked by intense global competitiveness, rapid commercialization, and the pervasive influence of Western corporate culture within the burgeoning Indian economy, students exhibit a heightened eagerness to acquire proficiency in the English language. Simultaneously, parents harbour a strong desire for their children to attain competence in English. However, the aspirations of many students are hindered by the scarcity of resources and educational infrastructure, especially in rural and remote locations. The strategic use of mobile devices emerges as a potential solution to bridge this gaping proficiency gap.

Mobile learning, as a user-friendly and cost-effective mode of language acquisition, proves particularly beneficial for individuals residing in rural areas. This method circumvents the need for geographical relocations or adjustments, allowing language learning to occur with a simple touch, leveraging the support of ubiquitous wireless devices. Reading and listening comprehensions constitute foundational steps in the journey of English language acquisition.

Recognizing the imperative to revolutionize pedagogical practices and make learning more accessible and convenient for students, the researcher and educator discern the potential of harnessing the power of mobile phones. Integrating technology into the process of teaching and learning languages can render language acquisition more accessible and engaging. It is noteworthy that in India, Massive Open Online Course (MOOC) platforms offer a plethora of English language courses, providing students with the flexibility to select courses that align with their preferences and needs. However, a critical challenge persists in that many students are unaware of

the existence of such MOOC platforms, while educators often overlook the imperative to disseminate information about these resources to their students. Consequently, students remain oblivious to the opportunities available through these platforms, inadvertently depriving themselves of potential benefits.

1.1.3 The Evolution of Learning: M-Learning in the Digital Epoch

M-Learning ushered in a new era of learning marked by the flexibility to learn at one's own pace, the assimilation of audio-visual resources that could be played, paused, and rewound at will, and accessibility for individuals residing in rural and remote areas. This digital mode of learning effectively eradicated the necessity for students to relocate to metropolitan areas, thereby conserving time, financial resources, and energy. The advantages of m-learning significantly diminished the reliance on physical classrooms.

In the wake of these transformative times, where the conventional was rendered obsolete, m-learning emerged as the harbinger of a dynamic and accessible education ecosystem. The flexibility inherent in this mode of learning empowered students to tailor their educational journey according to their unique learning styles and schedules. The incorporation of audio-visual resources not only made learning more engaging but also catered to diverse learning preferences, amplifying the overall efficacy of the educational process.

Moreover, the accessibility afforded by m-learning became a cornerstone of educational inclusivity. Students residing in rural and remote areas, often marginalized in the traditional educational setup, now had a gateway to quality education. The need for physical proximity to educational institutions diminished, breaking down geographical barriers and providing equitable learning opportunities to a broader demographic.

1.1.4 Digital Evolution in English Language Learning: Beyond the Classroom

The digital revolution has fundamentally transformed English Language Learning (ELL), providing learners with unprecedented access to a plethora of online resources. As noted by Eastment (13), the number of English as a

Second Language (ESL) and English as a Foreign Language (EFL) sites on the web continues to grow each month, offering learners a diverse array of platforms for language acquisition.

Prominent websites such as ‘ESOL Courses,’ ‘BBC Learning English’, ‘Five Minute English’, ‘ESL Podcast’, and ‘Flo-Joe’ exemplify the expansive opportunities available to English language learners. These platforms, accessible anytime and from anywhere, facilitate self-paced learning and cater to the diverse needs of learners worldwide.

The integration of dictionaries and thesauruses into the online realm has further enriched the digital learning experience. Online dictionaries, exemplified by trusted sources like Collins Dictionary, not only provide definitions but also incorporate images and pronunciations, enhancing the depth of understanding. Interactive features, such as playing Scrabble and English learning games on the Collins Dictionary website, make the learning process engaging and dynamic.

Digital education, propelled by the internet, has undergone a remarkable evolution. While computers were introduced as components of Information and Communication Technology (ICT), it was the internet that truly catalysed the shift toward digital learning. Computer Assisted Language Learning (CALL), a pivotal aspect of this evolution, leverages multimedia capabilities to enhance retention through visual and auditory stimuli.

The advent of educational CD-ROMs, such as Encarta, marked a significant milestone in digital learning. Coursebooks began incorporating CD-ROMs with additional exercises and multimedia self-study materials, providing learners with interactive and immersive experiences (Dudeney and Hockly 534).

In the contemporary context, CALL remains integral to the education system, with schools increasingly investing in netbooks or tablet computers for students. These wireless devices promote flexibility in learning, allowing students to engage with educational content beyond the confines of traditional classrooms (Dudeney and Hackly 540).

The trajectory of digital learning in India reflects a transformative journey. Two decades ago, the introduction of computer laboratories in many Indian schools marked the initial foray into digital education. However, at that time, teaching with computers was not widespread, and internet connections were slow. Over time, computers became indispensable tools in education, and the proliferation of Internet connections facilitated the seamless integration of web-based learning.

The inevitability of incorporating digital devices into learning processes became apparent, as highlighted by Warschauer's assertion in 1999 that computers would become a necessary and readily available part of language learning in the future (Yaman and Ekmekçi 26). Today, the use of digital devices in education is not a luxury but a fundamental aspect of the learning experience.

The digital evolution in English Language Learning has democratized access to educational resources, transcending geographical barriers. Learners now have the flexibility to engage with language learning materials anytime, anywhere, fostering a dynamic and inclusive learning environment. The fusion of technology and language education continues to shape the landscape of English language learning, providing learners with a rich tapestry of digital resources for their educational journey.

1.1.5 Technology and Language Learning

We live in a digital era where technology has become an integral part of our daily lives. Various technological devices, such as mobile phones, laptops, desktop computers, tablets, iPads, and e-readers, have significantly impacted the way we live and learn.

In this technology-driven society, numerous terms like m-banking, m-learning, e-commerce, online shopping, webinars, e-conferences, mobile applications, social media, and digital platforms have become commonplace. Language learning, in particular, has been greatly influenced by digitalization, making it more accessible and convenient.

The transformation brought about by technology is evident in the shift from traditional manual systems to online platforms in various sectors in India. The

advancement of technology has facilitated the conduct of online lectures alongside traditional classroom settings. Speed and connectivity stand out as crucial factors in the rapid progress of technology in education.

A few years ago, the idea of learning the English language through a small device primarily designed for communication might have seemed implausible. However, today, this small gadget, commonly known as a mobile phone—has evolved into a multifunctional device featuring audio and video capabilities, downloading, and uploading capabilities, and internet access. The widespread ownership of such devices in Indian households has made learning the English language more accessible. Learners can now study from the comfort of their homes at their preferred times.

The modern world witnesses people of all ages and genders using technology-integrated devices, particularly mobile phones. However, there is still a technological gap, and some teachers are considered “digital immigrants” by Prensky—individuals who were born in a different era and have followed traditional teaching methods. Adapting to the needs of the current generation, which prefers technology, becomes imperative for educators.

Mobile learning, with its distinguishing features such as autonomy, choice, personalization, and portability, holds great potential. The autonomy and portability of mobile phones make learning more comfortable for both teachers and learners. While computer labs were once the norm in educational institutions, the ubiquity and personal nature of mobile phones have led to their acceptance for learning purposes.

The future may witness universities recommending mobile learning, especially considering the high smartphone penetration among 18-24-year-olds. As nearly 98% of young individuals in this age group use smartphones, incorporating mobile technology into learning becomes a logical choice.

Smaller-sized gadgets are now equipped with a multitude of features. The rise in language learners has led to the creation of various language learning programs, from short clips to comprehensive courses. Language tutors and Mobile Assisted Language Learning (MALL) content creators are providing

diverse learning materials, including reading, and writing exercises, learning tasks, and quizzes, to cater to the growing demand for language education.

1.1.6 Revolutionizing Language Learning: The Impact of Internet and Mobile Phones

In the contemporary era, the marriage of the internet and mobile phones has ushered in a new paradigm for education, making learning more efficient and accessible than ever before. Through the integration of video conferencing tools, chats, emails, digital media platforms, and learning applications, the educational landscape has undergone a transformative shift.

The rapid growth of internet usage in English Language Teaching (ELT) is evident in the period between 1996 and 1998, with a continuous acceleration observed thereafter. The number of ELT sites on the web has tripled during this time, according to Eastment (01). The internet has become a catalyst for accessibility, flexibility, and portability in education, eliminating the need for physical presence to teach, learn, and communicate.

The internet, characterized as a global "network of computer networks," has redefined the way education operates. It facilitates the sharing of information, text, and graphics, allowing computers to be accessed from any part of the world (Eastment 03). This connectivity has opened up unprecedented opportunities for learners and teachers, transcending geographical boundaries. Learners now have access to authentic and up-to-date material, enhancing the quality of their learning resources (Eastment 01).

With the internet, language learning has become a universal endeavour, extending beyond the confines of the English language. The ease of accessibility has democratized language learning, enabling individuals to learn any language at any time and from anywhere. The latest technology has streamlined the development of language exercises, making them instantly available to a global audience (Eastment 01).

In the Indian context, the widespread availability of the internet has made language learning more accessible and flexible. Both teachers and students benefit from the online mode of learning, which facilitates chat interactions, video calls, discussions, and the seamless submission of assignments. The

internet has become an integral part of the learning process, enhancing the overall educational experience.

Globally, numerous websites are dedicated exclusively to English language teaching and learning. These platforms serve as invaluable resources for both tutors and learners, providing a space for discussion and addressing queries. In the Indian educational landscape, these websites play a crucial role in fostering language proficiency and facilitating a collaborative learning environment.

> Dave's ESL Café is the world's oldest and most well-known website for English language teachers and learners. "Innovators started to develop websites for English teachers, with 'Dave's ESL Café' being one of the oldest and best known of the early ones… Dave Sperling was undoubtedly one of the first teachers to see the commercial potential of such services, and his site continues to this day. Were it not for his early experiments, it is unlikely that today we would see sites as 'Macmillan OneStopEnglish' or iT's 'Online'(Dudeney and Hockly 536).

The convergence of the internet and mobile phones has reshaped the landscape of language education. The accessibility, flexibility, and global connectivity afforded by these technologies have democratized learning, making it a ubiquitous and inclusive experience. The internet has not only revolutionized language learning in India but has also connected learners and educators worldwide, fostering a rich and dynamic learning community.

1.1.7 Mobile-Assisted Language Learning (MALL): A Powerful Tool for Independent Learning

Mobile learning (m-learning) has emerged as one of the most convenient and powerful tools for language learning, particularly with the ubiquity of mobile phones. Stockwell (2007) likened the use of mobile phones for vocabulary learning to an "intelligent tutor system," wherein the device creates a personal profile for each learner, tailoring activities and learning materials based on individual needs. This personalized approach supports learners in their individual growth.

In m-learning, one-to-one teacher-learner interaction is facilitated through features such as voice notes. Students can send voice notes to teachers about their learning, and teachers provide feedback individually via voice messages. This direct communication enhances the learning experience and allows for a more personalized understanding of each student's progress. Additionally, learner-to-learner communication is fostered, enabling the exchange of messages, voice notes, PDF files, emails, and more. Group discussions on social media platforms, such as WhatsApp, create a collaborative learning environment where learners can engage in activities like discussions and debates.

The functionalities of mobile devices, including cameras and microphones, facilitate various activities for teachers. Vocabulary quizzes and speaking tests, for example, can be conducted where learners describe objects in their surroundings in English. This not only builds learners' confidence and fluency but also allows teachers to correct errors. The familiarity of learners with their mobile devices makes these activities more engaging and effective.

The methods of teaching and learning English through mobile phones are diverse and can be tailored to the teacher's methodology. Whether focusing on e-books, PDF files, resources-based learning, or activity and interaction-based learning, the range of approaches using MALL is rapidly evolving. Design and resources play a pivotal role, offering a wide array of language learning activities.

MALL encourages independent learning with online activities among peers. Learners can help each other through video calls, audio notes, and collaborative reading sessions. Peer correction in texts contributes to a supportive learning environment. Importantly, students become less dependent on teachers and peers as they can leverage search engines and online applications for learning. The shift in media formats has transformed the role of teachers from being knowledge experts to presenters, with learners accessing a wealth of study resources and books from online libraries through their mobile phones.

In essence, MALL empowers learners to take charge of their language learning journey, fostering independence, collaboration, and a dynamic learning experience. The evolving landscape of mobile technology continues to enhance the potential of MALL in language education.

The advent of technology and mobile phones is transforming the role of teachers from being mere providers of information to becoming facilitators and advisors. The transition in media formats has shifted the average teacher's role from being an expert to being a presenter of the expertise of others (Glahn). In the context of language learning, technology-enhanced language learning and mobile-assisted language learning have garnered increased attention and interest from students.

The changing landscape requires teachers to adapt to new roles, embracing the opportunities presented by technology. The need arises to explore and understand the elements of technology, social media, and social networking that students find compelling. Integrating these elements into teaching and learning practices becomes crucial for engaging students effectively (Alharbi 866). As facilitators, teachers guide students in navigating the digital landscape and harnessing the benefits of mobile learning.

In the current mobile age, characterized by advanced and virtual technologies, individuals carry their mobile phones everywhere, making various tasks accessible with just a few taps. This ubiquity extends to education, where language learning has undergone a digital transformation. The availability of numerous mobile learning applications provides learners with diverse methods, resources, and options, facilitating easy and engaging learning experiences.

Mobile learning applications leverage features such as audio and video content, making the learning process interesting and enhancing comprehension and retention. Creativity is fostered through interactive and multimedia elements, contributing to a more productive learning environment. The convenience of learning on the go aligns with the mobile lifestyle, allowing learners to integrate language learning seamlessly into their daily routines.

The shift towards mobile learning has redefined the teacher's role, emphasizing facilitation, guidance, and adaptation to technology. The integration of mobile technology in language education opens up new avenues for creative and effective learning, aligning with the evolving needs and preferences of students in the digital era.

1.1.8 Mobile Assisted Language Learning (MALL): A Catalyst for English Language Acquisition

Within this transformative educational landscape, Mobile Assisted Language Learning (MALL) emerges as a pivotal catalyst, revolutionizing the dynamics of English language acquisition. The seamless integration of mobile phones into the educational process facilitates anytime, anywhere access to language learning resources. Whether through language learning apps, virtual classrooms, or interactive multimedia content, MALL provides learners with a diversified and immersive language acquisition experience.

One of the noteworthy aspects of MALL is its ability to accommodate various learning styles and preferences. The digital realm allows for the creation of interactive and personalized learning modules, catering to individual needs and pacing. Learners can engage with content through diverse modalities, including audio-visual materials, interactive quizzes, and collaborative forums, fostering a dynamic and participatory learning environment.

Moreover, MALL transcends the limitations imposed by physical boundaries. In a country as vast and diverse as India, where access to quality education can be uneven, MALL becomes a leveller, democratizing language education. Learners in remote areas or with limited access to conventional educational resources can harness the power of MALL to bridge educational gaps and enhance their language proficiency.

1.1.9 Mobile Technology and Its Impact on Language Learning: A Paradigm Shift

The evolution of mobile technology has brought about a significant transformation in teaching and learning methodologies, garnering widespread acknowledgement, and transitioning into an integral component of education.

With the ubiquity and advanced features of mobile phones, they have become pivotal in the realm of education and language learning.

The advent of mobile phones has witnessed the flourishing of numerous educational and language learning applications, making learning resources more accessible to a broader audience. The smaller size and portability of mobile phones have played a crucial role in their popularity, as learners find them more convenient and pocket friendly. The concept of Mobile-Assisted Language Learning (MALL) encapsulates the utilization of devices like cell phones, personal digital assistants (PDAs), smartphones, pads, and pods for language learning purposes. The advent of smartphones and interactive mobile 2.0 technologies has propelled MALL to gain remarkable momentum (Yaman and Ekmekçi 26).

A mobile phone, essentially an advanced version of a computer with a smaller screen, has become an indispensable tool in the field of Information and Communication Technology (ICT). The interactive dimension of mobile phones is a key aspect that facilitates language learning, making it more engaging and demanding for learners. The ubiquity of mobile phones, particularly smartphones, has led to their integration into mainstream education and teacher training (Dudeney and Hockly 540).

The educational landscape is witnessing a surge in the development of mobile-friendly apps for smartphones, both by publishers and educational institutions. This shift is evident in the increasing number of webinars, e-conferences, e-courses, e-books, and e-worksheets that learners can access and participate in digitally. This digitalization of learning resources allows for greater flexibility, enabling learners to engage with educational content beyond the confines of traditional classrooms. Completed assignments can be easily sent back to teachers or uploaded to respective websites, facilitating seamless communication and collaboration.

The current generation, known for its tech-savvy nature, finds language learning with digital devices such as laptops, iPads, tablets, and mobile phones more comfortable. The education system is adapting to this technological shift, incorporating ICT tools like smart boards, overhead

projectors, and laptops into classrooms. These tools not only aid in language learning but also provide the flexibility to learn from the comfort of one's home, eliminating the need to attend physical institutes. This digital transformation saves time, energy, and resources, contributing to the growing number of English language learners.

Information and Communication Technology (ICT) play a pivotal role in creating opportunities for language learners to communicate in the target language. As the demand for language learning evolves, ICT continues to shape the landscape of education, providing learners with innovative tools and methodologies to enhance their language proficiency. The integration of mobile technology signifies a paradigm shift in language education, emphasizing accessibility, engagement, and the evolution of traditional teaching methods in response to the demands of the contemporary learner.

1.1.10 Mobile Learning: Revolutionizing Language Education in the Digital Era

The modern era, marked by technological advancements such as computers and mobile phones, has witnessed an unprecedented integration of these devices into everyday life. Mobile phones, in particular, have become an indispensable part of everyone's daily routine. Their omnipresence has revolutionized language learning, making it accessible with just a few taps on a small device. As stated by Hulme, "language learning is one of the disciplines that looks set to benefit from these developments" (119).

Mobile learning, often referred to as m-learning, has played a transformative role in encouraging educators and learners to explore the integration of technology and digital media, especially mobile phones, in language teaching and learning. The COVID-19 pandemic and subsequent lockdowns have further accelerated the adoption of online learning, with both teachers and learners adapting to this new mode of education.

In the context of education, today's learners exhibit a strong inclination towards digital teaching and learning. Marc Prensky coined the term "Digital Natives" to describe today's students, emphasizing that they are fluent in the digital language of computers, video games, and the Internet. Prensky

suggests that the educational system was not originally designed to teach these digitally native students, who find technology like computer games, email, the Internet, cell phones, and instant messaging integral to their lives (Prensky 01).

The impact of mobile technology on society and education, particularly language learning, is profound. Boity notes that mobile technology has the potential to disrupt the education system, providing innovative ways to engage students and enhance the learning experience (04). Mobile learning introduces novel methods of conducting classes, bridging the gap between formal and informal learning.

Mobile phones offer a plethora of services to mobile learners, including SMS and internet access. This enables learners to download various language learning applications and engage in game-based learning, fostering a dynamic and interactive learning environment. The advent of smartphones, with improved battery life and affordable prices, has further democratized access to quality education. The affordability of smartphones ensures that individuals from all sections of society can access education, contributing to the ideal of 'equality in education.'

In conclusion, mobile learning emerges as a transformative force in language education, providing learners with flexibility, accessibility, and interactive learning experiences. The integration of mobile technology into language teaching opens up new possibilities for educators and learners alike, paving the way for a more inclusive and dynamic education system.

1.1.11 The Evolution and Impact of Online Teaching and Mobile Learning

The COVID-19 pandemic, which prompted a sudden shift to online education in 2020, significantly altered the perceptions of parents, teachers, and learners regarding online teaching and learning. While there might have been initial scepticism, the necessity imposed by the pandemic led to a greater appreciation for online methods. Teachers, often labelled as "Digital Immigrants" by Prensky, had to adapt to the preferences of the "Digital Natives", today's tech-savvy generation that grew up with digital technology.

Online teaching and learning proved to be a viable alternative, offering flexibility and opportunities for independent language learning. Prensky's analogy of "Digital Immigrants" struggling to teach a population speaking an entirely new language emphasizes the need for educators to incorporate technology into their teaching methods.

The post-COVID era witnessed a continued embrace of online methods, with more teachers recognizing the advantages of technology-enhanced education. The growth of netbook, tablet computer, and mobile phone use indicates a trajectory towards increased adoption of digital learning methods globally.

Mobile learning, a rapidly growing facet of education, extends beyond the use of mobile technologies. The focus is shifting towards the mobility of the learner, allowing language learners who are frequent travellers to benefit from wireless pocket-size devices. Projects funded by the European Union since 2001 confirm the prevalence of mobile phones as the most frequently used device, followed by personal digital assistants (PDAs) and other handheld devices.

Various educators contribute to mobile learning by providing e-coursebooks and learning resources, each employing different teaching methods. The versatility of mobile devices, described as "small, autonomous, and unobtrusive," has made them integral to contemporary learning experiences.

Online learning, post-COVID, emerged as a powerful tool worldwide. Mobile phones play a crucial role as facilitators in this student-centric approach. Information and Communication Technology (ICT) have been harnessed to create opportunities for language learners to communicate effectively in the target language.

Computer-assisted mobile learning, utilizing lightweight devices like personal digital assistants (PDAs) and cellular mobile phones, has become more prevalent. Access to the internet and wireless devices has become ubiquitous, making mobile learning one of the fastest-growing modes of education. Collaborative activities, particularly speaking and listening exercises, can be successfully supported by mobile devices.

The integration of online teaching and mobile learning has become an essential aspect of contemporary education. The adaptability of educators and learners to these digital methods has paved the way for a more inclusive and dynamic learning environment, offering diverse opportunities for language acquisition and communication. The positive outcomes of Mobile-Assisted Language Learning (MALL) further underscore the potential of technology in enhancing English language learning experiences.

1.1.12 Evolution of Mobile Technologies in Education

The evolution of information and communication technology (ICT) tools in education has been marked by significant developments over time. Various technologies such as radio, television, floppy disks, CD drives, projectors, and computers have played roles in shaping educational practices. However, each of these technologies had its limitations, ranging from high costs to lack of mobility and technological disadvantages.

The emergence of mobile phones represents a breakthrough in addressing many of these limitations. Unlike earlier technologies, mobile phones offer a compact size, good battery life, internet connectivity, and personalized usage. The affordability and widespread adoption of mobile phones, especially in India, have contributed to their accessibility even in rural areas. This makes mobile phones a suitable tool for teaching and learning purposes, promoting equality in education across different socioeconomic classes.

The advantages of mobile technology in education are extensive. Mobile phones are not only affordable but also lightweight, making them a practical choice for learners. Their personal nature ensures that a larger number of families can afford mobile phones compared to laptops or computers. This accessibility contributes to bridging the digital divide and ensuring that a maximum number of learners have the opportunity to access quality education.

The transformative potential of mobile technology in education is evident in its ability to engage students in new ways, making educational experiences more meaningful. However, effective implementation requires structured and integrated approaches. As technology continues to advance, the education

sector has witnessed the progression from traditional personal computers to tablets and smartphones. The introduction of touchscreen devices, portability, and widespread internet connectivity has ushered in a new era of mobile learning classrooms.

The timeline of technological advancements in education reflects a trajectory from personal computers in the 1980s to the introduction of tablet computers in 2010, marking a significant shift toward more mobile and interactive learning environments. In the present technologically advanced world, smartphones and the internet play pivotal roles in reshaping educational practices, offering educators and learners innovative tools and resources for effective teaching and learning.

1.1.13 Evolution of Definitions in Mobile Learning

The evolution of technology in education over the past three decades has led to a continuous updating of definitions related to mobile-based learning. As technology advanced, scholars and researchers contributed various definitions, sometimes leading to contradictions and confusion in understanding the scope and impact of technology use in education.

A study by Bebell, Russell, and O'Dwyer emphasized the importance of a clear understanding of how teachers and students are using technology before delving into the outcomes of technology integration. The shift from traditional teaching methods to technology-enhanced education has provided a plethora of resources for both teachers and students, offering a more diverse and dynamic learning experience.

The term "mobile learning" has seen a significant increase in definitions over time, reflecting the growing adoption of handheld learning. According to research by Yiannis Laouris in 2005, there was a substantial rise in the number of definitions of mobile learning within a short span. This trend continued, with millions of search results for the definition of mobile learning in 2021. The increasing number of definitions highlights the popularity and acceptance of mobile learning as a preferred mode of education.

John Traxler defined mobile learning as any educational provision where handheld or palmtop devices are the sole or dominant technologies. This

definition encompasses a range of devices, including mobile phones, smartphones, personal digital assistants (PDAs), tablet PCs, and perhaps laptop PCs, excluding desktops in carts or similar solutions.

Clark Quinn provided a concise definition, referring to a Palm as a learning device. Quinn emphasized the ease of use and portability of mobile learning, making individuals independent learners. However, he also acknowledged some limitations, such as small screens, slow processing, and limited storage capacities. The small screen size emerged as a notable drawback, potentially impacting the learning experience.

These evolving definitions capture the multifaceted nature of mobile learning, reflecting advancements in technology and the changing landscape of education. As technology continues to shape educational practices, definitions will likely continue to adapt to encompass new devices, applications, and methodologies that enhance the learning experience.

Evolution of Definitions in Mobile Learning The evolution of technology in education over the past three decades has led to a continuous updating of definitions related to mobile-based learning. As technology advanced, scholars and researchers contributed various definitions, sometimes leading to contradictions and confusion in understanding the scope and impact of technology use in education. A study by Bebell, Russell, and O'Dwyer emphasized the importance of a clear understanding of how teachers and students are using technology before delving into the outcomes of technology integration. The shift from traditional teaching methods to technology-enhanced education has provided a plethora of resources for both teachers and students, offering a more diverse and dynamic learning experience. The term "mobile learning" has seen a significant increase in definitions over time, reflecting the growing adoption of handheld learning. According to research by Yiannis Laouris in 2005, there was a substantial rise in the number of definitions of mobile learning within a short span. This trend continued, with millions of search results for the definition of mobile learning in 2021. The increasing number of definitions highlights the popularity and acceptance of mobile learning as a preferred mode of education.

John Traxler defined mobile learning as any educational provision where handheld or palmtop devices are the sole or dominant technologies. This definition encompasses a range of devices, including mobile phones, smartphones, personal digital assistants (PDAs), tablet PCs, and perhaps laptop PCs, excluding desktops in carts or similar solutions. Clark Quinn provided a concise definition, referring to a Palm as a learning device. Quinn emphasized the ease of use and portability of mobile learning, making individuals independent learners. However, he also acknowledged some limitations, such as small screens, slow processing, and limited storage capacities. The small screen size emerged as a notable drawback, potentially impacting the learning experience. These evolving definitions capture the multifaceted nature of mobile learning, reflecting advancements in technology and the changing landscape of education. As technology continues to shape educational practices, definitions will likely continue to adapt to encompass new devices, applications, and methodologies that enhance the learning experience.

The evolution of technology in education has prompted a continuous refinement of definitions related to mobile-based learning. Technological advancements have led scholars and researchers to contribute various definitions, occasionally resulting in contradictions and confusion regarding the scope and impact of technology use in education.

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According to the Oxford Dictionary, mobile learning is, “a system of learning that uses mobile devices such as mobile phones, small computers that can be carried, etc. so that people can learn anywhere at any time.” According to Georgiev, Georgieva and Trajkovski, mobile learning is a transition of e-learning. They have also talked about the flexibility of mobile learning which gives the freedom to learn at any time and any place. Kambourakis et al. defined m-learning as, “The point at which mobile computing and e-Learning intersect to produce an anytime, anywhere learning experience” (1). Flexibility is a key aspect of mobile learning.

Mobile phones are considered one of the most advanced technological tools for learning and there can be seen a bright future in mobile learning. Pinkwart et al. define “mobile learning as ‘e-learning that uses a mobile device and wireless transmission” (Laouris and Eteokleous 02). Many scholars have defined mobile learning as a branch of computer learning with more advanced

hardware components which include wireless transmission and portable devices. According to Georgiev et al., m-Learning is still a new educational method but provides more flexibility than e-learning. O'Malley et al. defined mobile learning as "any sort of learning that happens when the learner is not at a fixed, predetermined location, or learning that happens when the learner takes advantage of the learning opportunities offered by mobile technologies" (07), mobile phone gives the wide learning opportunities due to its ubiquity.

Colazzo et al. called mobile learning the future of learning and an integral tool for the educational process in future. They defined m-learning as "A mobile learning educational process can be considered as any learning and teaching activity that is possible through mobile tools or in settings where mobile equipment is available" (2097). According to Caudill, hardware advances and wireless networking are two major technological components contributing to m-learning success. Caudill pointed out that "m-Learning as any e-Learning application delivered on-demand via mobile digital device" (03). Caudill stated that "m-Learning as an educational method is new and more flexible than previous e-Learning applications" (03). According to Polsani mobile learning is a restrictive term, mobile phones run with the network, and it should be rather called network learning instead of mobile learning. Polsani proposed the term n-learning i.e. 'network learning' and defined mobile learning as, " a form of education whose site of production, circulation, and consumption is the network" (Behera 25). Mellow (2005) quotes Oblinger (2004) as saying that today's learners are "... digitally literate, always on, mobile, experimental, and community-oriented" (Caudill 06). MALL makes learners more digitally literate.

According to Marshall McLuhan, learning is not confined to the classroom; it has become borderless due to the conveyance of information through various media such as the press, television, and radio. He emphasizes that the quantity of information delivered through these media far exceeds that of traditional classroom instruction. This shift challenges the traditional role of books as the primary teaching aid and disrupts the conventional boundaries of the classroom. McLuhan's view suggests a transformed learning landscape where

information is abundant and delivered through diverse channels, raising challenges and uncertainties.

Osman and Cronje define mobile learning as any form of learning that occurs in environments and spaces accommodating the mobility of technology, learners, and the learning process. This definition emphasizes the importance of adaptability to technological mobility, the movement of learners, and the dynamic nature of the learning process.

Attewell and Savill-Smith view mobile learning, or “m-learning,” as the use of wireless technology devices that can be pocketed and utilized wherever the learner’s device receives uninterrupted transmission signals. They underscore the significance of wireless connectivity and the pocket-size nature of devices in facilitating learning. However, it is noted that advancements in technology have expanded the capabilities of mobile learning beyond the constraints of signal reception, allowing for offline learning experiences through downloaded files.

Mobile learning, as described by various scholars, harnesses the features of mobile devices to accelerate learning. The flexibility and technological advancements associated with mobile learning are commonly highlighted. The convenience of pocket-size devices, coupled with the ability to access learning materials anywhere, has made mobile learning a popular and preferable mode of education.

The prevalence of mobile phone usage during leisure time and the regular checking of phones by a vast majority of people indicate a high level of engagement with mobile devices. Integrating mobile phones into education, particularly language learning holds promise for success. The visual and interactive nature of learning through mobile devices, such as watching videos, is noted to enhance retention compared to traditional verbal instruction in classrooms. As people increasingly incorporate mobile devices into their daily lives, mobile learning becomes a convenient and attention-grabbing mode of education.

1.1.14 CALL and MALL in TELL and ICT

Computer Assisted Language Learning (CALL) and Mobile Assisted Language Learning (MALL) are integral components of Technology Enhanced Language Learning (TELL), which encompasses a broad spectrum of tools such as multimedia computers, the internet, mobile devices, smart boards, videotapes, online chat rooms, web pages, and interactive audio conferencing. Both CALL and MALL fall under the broader umbrella of online education, which is technology-based and a subset of Information and Communication Technology (ICT).

MALL, being a subset of mobile learning, involves devices like smartphones, tablets, and handheld devices. CALL, on the other hand, is rooted in computer learning and includes devices such as desktop computers and laptops. While computers entered education and language learning earlier, smartphones became common tools more recently, gaining popularity over the past decade. MALL and CALL share similar features, given that mobile phones function as computing devices in a more portable form. The convenience of mobile phones makes language learning with MALL more accessible and user-friendly compared to traditional computers.

Individual Accessibility and Privacy: Mobile phones are individual devices that individuals carry everywhere, providing them with ubiquitous access to learning opportunities. The personal and unobtrusive nature of mobile devices allows learners to access educational content privately. Lallurillard highlights the potential for digitally facilitated site-specific activities and increased control over learning activities with m-learning, offering learners more opportunities.

Storage Capacity and Limitations: While mobile phones are convenient for carrying everywhere, they have limited storage capacity. Large files may require frequent deletion or transfer to computers or laptops, which have larger storage capacities. Desktops and laptops, with larger screen sizes and more storage capacity, offer advantages in certain scenarios but lack the portability of mobile phones.

Preference for Mobile Phones: Mobile phones are considered preferable learning devices due to their portability, ease of use, and frequent usage among digital devices. Their smaller size allows for easy scrolling and interaction in various settings, contributing to their popularity in language learning. MALL, distinguished by the use of personal and portable devices, emphasizes the continuity and spontaneity of access and interaction across different contexts of use, setting it apart from traditional computer-assisted language learning.

While MALL is a branch of CALL, they exhibit differences in characteristics, with mobile devices being wireless, more personal, and providing distinct advantages for language learners. Both contribute to the evolving landscape of Technology Enhanced Language Learning, driven by advancements in ICT.

Complementarity of CALL and MALL in Language Learning: Computers and mobile phones, both falling under the umbrella of Information and Communication Technology (ICT), serve as tools for both Computer Assisted Language Learning (CALL) and Mobile Assisted Language Learning (MALL). While earlier studies were primarily focused on CALL, MALL has gained prominence as a more recent term, capturing the attention of learners. CALL and MALL, while having their distinct attributes, are considered substitutes for each other, and learners can choose between them based on their preferences and circumstances.

Both CALL and MALL have their advantages and disadvantages. The strengths include the flexibility of ubiquitous, independent, and self-directed learning. Learners have access to various digital resources such as videos, audios, e-books, vodcasts, podcasts, websites, PDF files, and e-workshops, providing a comprehensive learning experience. However, challenges like network issues, limited storage, potential distractions, and smaller screen sizes on mobile phones are among the drawbacks.

MALL and CALL complement each other, and learners can use both digital devices simultaneously. In educational settings where mobile phones might be prohibited, learners can utilize computers for language learning during school hours and switch to mobile phones after school. The combination of both

technologies contributes to technology-enhanced learning, offering a seamless experience for learners.

MALL, distinguished by its mobility, provides omnipresence in language learning. The flexibility it offers to both tutors and learners is highlighted. Learners can access practical knowledge and skills, browse the web, download podcasts, and listen to audio resources while on the go or during leisure time. Mobile phones become practical tools for accessing dictionary applications, providing learners with meanings, pronunciations, pictorial images, and video clips for better understanding.

Some educational contexts, particularly in India, where the use of mobile phones in classrooms is restricted, MALL can be more accessible and convenient for learners compared to computer labs. Learners find mobile devices handier and quicker for smaller needs, such as looking up word meanings, making it easier to use a dictionary app on mobile phones than accessing computers.

The complementarity of CALL and MALL allows learners to harness the benefits of both technologies, offering a versatile and integrated approach to language learning. Learners can choose between them based on their preferences, accessibility, and the specific context in which they find themselves.

1.1.15 The Growing Popularity of MALL Over CALL

In the contemporary landscape, mobile phones have become the preferred devices for learners, surpassing the frequency of use compared to computers or laptops. The regular release of mobile phones with updated software across various price ranges has made them affordable to people from all economic backgrounds. The mobility provided by mobile phones is a key factor contributing to their popularity among language learners. The increasing mobility of individuals emphasizes the need for mobile opportunities, making new mobile devices and software more favoured among language learners than traditional computer technologies.

With the prevalence of mobile phones and their frequent usage, there is a likelihood of a rise in the number of mobile learners. The convenience of

wireless, portable devices like smartphones allows learners to carry their learning resources in pocket-sized devices, eliminating the need for carrying bulky books or laptops. This aligns with the trend of increasing mobility in human beings, and mobile opportunities are expected to gain more popularity among language learners.

Mobile Assisted Language Learning (MALL) stands out as a convenient and preferable option for learners due to its portable size, easy accessibility, and additional features such as cameras and video recording capabilities. The camera feature becomes particularly useful in saving classroom time. Instead of spending time writing notes on the board and copying them, teachers can circulate audio notes, pictures of notes, or PDF files to students. Learners can then create their notes at their convenience, whether as homework or during free time. This approach not only saves classroom time but also facilitates interactive sessions between teachers and students.

The features of mobile phones, such as cameras and audio recording, provide enhanced learning opportunities. Teachers can share visual or audio content, making learning more engaging. Learners can take pictures of notes, a task that is easier and more convenient on mobile phones compared to desktop computers or laptops. The popularity of MALL is attributed to the availability and portability features of mobile devices. Mobile phones are easier to access, and carry compared to permanent devices like personal computers (PCs).

Flexibility and portability emerge as two significant attributes that draw learners towards language learning via mobile phones. Learning can seamlessly occur while travelling, walking, lying down, or during periods of waiting. This flexibility aligns with the lifestyle of modern learners who value on-the-go and adaptable learning experiences.

1.1.16 MOOCs and Mobile Learning: Transforming Education in India

MOOC stands for Massive Open Online Course, a form of web-based learning that allows learners to register with institutes of their choice. Coined in 2008 by Stephen Downes and George Siemens, MOOCs gained popularity in 2012 with platforms like Coursera and Udacity.

Characteristics of MOOC platforms are:

- They are offered on various platforms including SWAYAM, Coursera, edX, mooKit, and Udacity.
- Online courses provide affordable and flexible learning opportunities.
- Include lectures, discussions, videos, and chapter-wise topics with assessments or exams.
- Provide course certificates upon completion.
- Encourage interactive sessions among teachers and students, fostering a sense of community.
- Require an internet connection and a digital device for participation.

The Ministry of Education (MoE), along with bodies like UGC, AICTE, and NCERT, actively supports online learning and virtual classrooms. SWAYAM (Study Webs of Active Learning for Young Aspiring Minds) and NMEICT (National Mission in Education through Information and Communication Technologies) provide technology-based education courses that are accessible through mobile applications that emphasise accessibility, equity, and quality in education. MOOCs make online learning easier, flexible, and affordable globally, requiring only an internet connection and a digital device. It is supported by the principles of education policy emphasizing access, equity, and quality. Gujarat government's "e-Gyan" initiative promotes digital learning through mobile phones.

Gujarat University's SWAYAM platform offers an Annual Refresher Programme in English Language Teaching (ELT). A mobile application-based ELT course is accessible to learners. Indian Sign Language Education and Recognition System (ISLERS) provides an online language learning program for hearing-impaired students and utilizes mobile application-based learning to enhance accessibility. The Gujarat government's distribution of tablets (Namo E-Tablets) to first-year college students promotes modern education through digital devices.

MOOCs, coupled with mobile learning, have become transformative tools in reshaping education in India. These initiatives break down barriers to access, promote equality, and leverage technology to reach learners across diverse

backgrounds. The symbiotic relationship between MOOCs and mobile learning plays a pivotal role in democratizing education and creating new avenues for modern learning.

Advantages of MOOC:

- MOOC registration does not require any pre-qualification or degree, offering freedom to learners in choosing their topics of interest.
- Provides convenience to learners, allowing them to pursue courses in their areas of interest while working or pursuing a degree.
- Learners from any location can join MOOC programs with just an internet connection and a device, fostering diversity in thinking and learning.
- Physical presence is not necessary; learners can access courses from national and international universities and skilled teachers.
- Offers self-paced and flexible learning, allowing individuals to learn at their own pace. However, some courses have deadlines for assignments.
- Equal educational opportunities for people from diverse socio-cultural and socio-economic backgrounds, offering certified courses from recognized universities.
- Many MOOC courses are free of cost until a learner requires a certificate.

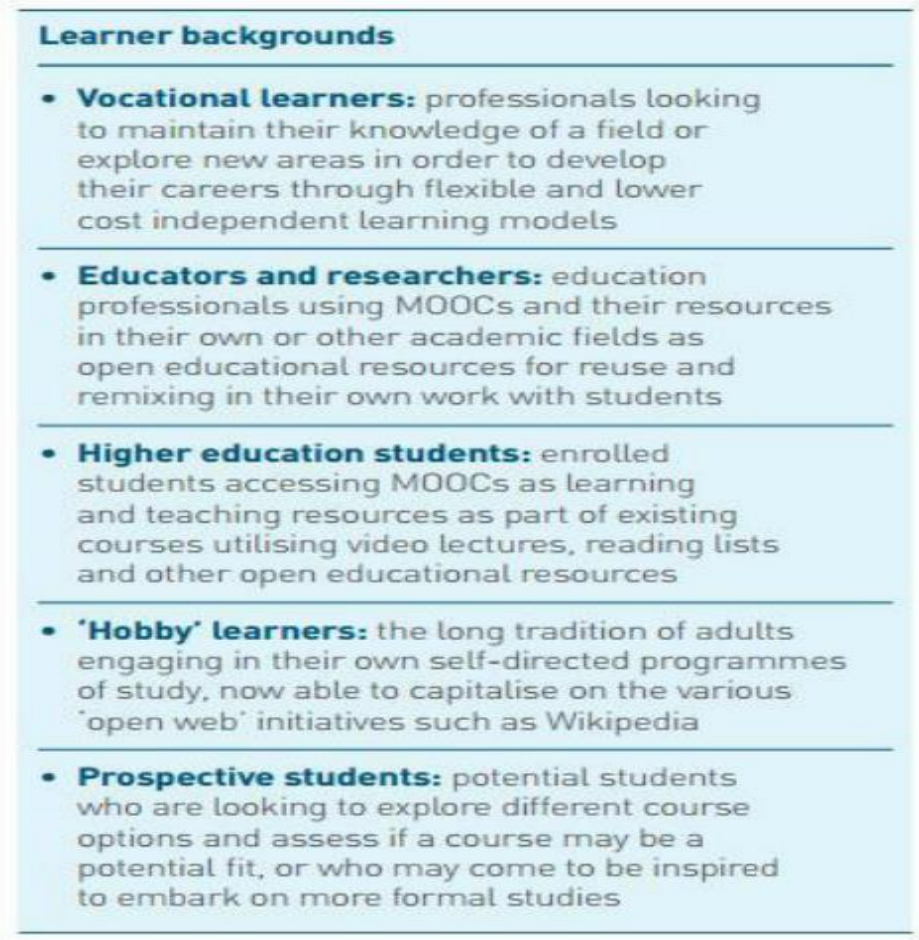
Limitations of MOOC:

- No face-to-face interaction between teachers, students, and peers, limits the depth of personal engagement.
- Not appropriate for subjects requiring hands-on lab experiments.
- Learners must be self-motivated to complete courses, and the dropout rate can be high due to a lack of motivation.
- Classes are not highly interactive, impacting the collaborative learning experience.

Anyone can enrol in MOOC learning such as individuals with jobs seeking in-depth knowledge in a specific sector; students concurrently pursuing higher studies; anyone interested in learning about a specific area of interest.

Covid-19 has significantly influenced the surge in MOOC registrations, with more enrolments post-pandemic. India, in particular, has seen substantial growth in MOOC enrolment. As of January 27, 2022, a World Economic Forum report indicates that during the pandemic lockdown, the number of MOOC enrolees more than doubled in 2020. In 2021, 13.6 million learners from India enrolled in MOOCs.

MOOCs cater to a diverse audience, offering flexibility and accessibility in education.



Learner's background of the MOOC (Figure adapted from Baturay 429)

As per reports, there was huge traffic on web-based learning during the hit of COVID-19 and the pandemic, many learners moved towards MOOC courses throughout the globe and India was no exception.

1.1.17 The Impact of Mobile Devices on Education in the Wake of the Covid-19 Pandemic

The advent of the COVID-19 pandemic brought about seismic disruptions across various sectors, with the educational domain being no exception. As a precautionary measure, educational institutions nationwide were compelled to suspend physical operations, leaving students unable to attend conventional classrooms or access traditional library facilities. In this unprecedented situation, mobile phones and analogous digital devices emerged as the vanguards of continuity, bridging the chasm created by the closure of educational institutions.

Mobile phones, owing to their ubiquity and versatility, played an instrumental role in maintaining the uninterrupted flow of the educational process. Even in the absence of physical presence in classrooms, essential pedagogical activities seamlessly transitioned into the digital realm. Online lectures became the new norm, complemented by the conduction of examinations through mobile phones and digital devices. The embrace of this digital paradigm extended across all educational echelons, from early education at the kindergarten level to the most advanced pursuit of a Doctor of Philosophy (PhD) degree.

Students, regardless of their academic level, found themselves closely connected to their mobile phones and digital devices, effectively bridging the gap created by the suspension of traditional classroom instruction. Written and oral examinations, traditionally conducted in person, underwent a successful transition into the digital realm, marking a significant transformation in educational assessment.

1.1.18 Transformative Impact of Mobile Learning in the Post-COVID-19 Education Landscape

The post-COVID-19 era has witnessed a paradigm shift in the education sector, marked by the widespread adoption of digital systems, technology, and online applications. The lockdown period necessitated a swift transition to digital platforms for teaching and learning, giving rise to a new era of technology-enhanced language learning. This transformation is evident in the

use of technologically advanced devices such as computers, laptops, and, notably, mobile phones for education.

During the lockdown, individuals had diverse experiences with technology-enhanced learning. While learners readily embraced mobile learning, some educators initially hesitated, having been accustomed to traditional teaching methods. The digital divide between generations was evident, with the younger generation adapting more easily to mobile learning. However, post-lockdown, perceptions have shifted, and many have recognized the value of online learning, leading to increased enrolment in online English courses.

Teachers who were initially hesitant about digital teaching methods have also ventured into online courses. The need for a new teaching style has been emphasized, acknowledging that the current generation of students requires new skill sets for communication and technology-rich environments. The education system is evolving to incorporate digital tools and adapt to the changing landscape of teaching and learning.

People's comfort with mobile phones, a device they frequently use, has contributed to the increased adoption of mobile-assisted language learning (MALL). Mobile phones offer the freedom to learn at one's own pace, making language learning a gradual and flexible process. MALL is seen as a practical option for saving resources and providing learners with the flexibility they need.

Several studies highlight the positive perceptions and acceptance of mobile learning among students. Azli et al. found that a majority of respondents had positive perceptions of mobile-assisted language learning. Similarly, Dias's survey showed that a significant percentage of students had a positive attitude toward using mobile phones for language learning. Lawrence Barry's study indicated that nearly half of the participants demonstrated positivity towards integrating mobile learning into language learning.

Mobile phones have the potential to revolutionize language learning processes. The youth, being familiar and comfortable with mobile phones, are likely to be more inclined towards using them for language learning. The personalized nature of mobile phones, providing freedom of time and place,

enhances the learning experience and caters to individual preferences and convenience.

The post-COVID-19 era has accelerated the integration of mobile learning into language education. Mobile phones, with their ubiquity and advanced features, are reshaping the way languages are learned. The positive perceptions and increased acceptance of mobile learning indicate a transformative shift in education. As technology continues to advance, mobile learning is poised to play a central role in the future of language education, providing accessible, flexible, and personalized learning experiences.

1.1.19 Mobile Assisted Language Learning (MALL): A Technological Evolution in Language Education

Mobile Assisted Language Learning (MALL) represents a transformative approach to language learning that leverages handheld mobile devices to assist and enhance the learning process. These handheld devices encompass a wide range of technologies, including mobile phones, tablets, iPads, PDAs, and more. MALL has redefined language education, providing learners with portable and smart devices that offer ease of use and require internet connectivity for accessing web-based learning resources.

MALL comes with many benefits for learners as mobile phones have become indispensable tools in the realm of education. M-learning, facilitated by MALL, brings about a revolutionary shift where learning becomes handheld, and language acquisition becomes more accessible. Tablets, iPads, PDAs, and mobile phones are not only portable but also smart devices that are lightweight and easy to carry. The advent of these handheld devices has made language learning more convenient and adaptable to the learners' lifestyles.

MALL liberates learners from the constraints of traditional classrooms. Learners have the flexibility to engage in digital classrooms or utilize language learning apps at their own pace and convenience, transcending the boundaries of time and place. M-learning has reached even the rural and remote areas, making language learning accessible to people from diverse backgrounds, including senior citizens and children. The widespread access to

wireless devices has encouraged digital learning across different demographics.

Beyond portability, mobile phones offer advanced features crucial for language learning. Functions such as audio-video capabilities enable learners to play, pause, and rewind lectures, while screenshot functionality allows the capture of important notes for future reference and revision.

There are many technological advancements in MALL as the advent of smartphones and other interactive mobile technologies has propelled the momentum of MALL. These devices with advanced functions have become viable tools for language learning. Mobile learning is considered the most common tool for digital learning, particularly with the proliferation of wireless devices and the expansion of online and digital education.

Smartphones, in particular, have gained remarkable popularity as handheld devices for education and language learning purposes. The ease of use, combined with technological advancements, makes them a preferred choice for learners.

Mobile phones have an impact on language learning language learning with technologically advanced handheld devices, including mobile phones, has the potential to increase literacy rates, enabling more individuals to read, write, speak, and understand the English language.

While tools like Google Translate exist, they cannot replace the nuanced expertise of human translators. Literal translations may fall short in capturing the complexities of certain phrases or idioms, highlighting the ongoing significance of human translators in language learning.

Mobile technology offers new learning opportunities that extend beyond traditional teacher-led classrooms. MALL allows learners to engage in learning experiences beyond the confines of physical classrooms.

MALL has ushered in a new era in language education, making learning more accessible, flexible, and inclusive. Mobile phones and handheld devices have become indispensable tools, providing learners with the freedom to learn anytime, anywhere. The fusion of technology and language learning has not only expanded literacy but also redefined the learning experience beyond

traditional boundaries. MALL represents a dynamic and evolving approach that holds immense potential for the future of language education.

1.1.20 Challenges and Opportunities in the Implementation of MALL

While the integration of Mobile Assisted Language Learning presents a promising avenue for enhancing English language acquisition, it is not devoid of challenges. One of the primary concerns is the digital divide, where disparities in access to technology may exacerbate existing inequalities in educational outcomes. Efforts must be made to ensure equitable access to mobile devices and reliable internet connectivity to prevent the marginalization of certain demographic groups.

Additionally, the efficacy of MALL relies heavily on the digital literacy of both educators and learners. Adequate training and professional development initiatives are imperative to empower educators with the skills to leverage MALL effectively. Simultaneously, learners need guidance in navigating digital platforms, discerning credible information, and maximizing the benefits of MALL for optimal language acquisition.

Despite these challenges, the implementation of MALL presents a multitude of opportunities. The gamification of language learning, interactive simulations, and real-time feedback mechanisms embedded in MALL platforms can make the process engaging and enjoyable. The adaptive nature of these platforms allows for personalized learning journeys, catering to individual strengths and weaknesses.

In conclusion, the integration of Mobile Assisted Language Learning (MALL) into the fabric of English language education in India signifies a paradigm shift in pedagogical approaches. The ubiquitous presence of mobile devices, especially in the aftermath of the Covid-19 pandemic, has accentuated the relevance and potential of MALL in democratizing language education. However, its successful implementation requires concerted efforts to address challenges related to digital access, literacy, and inclusivity.

As India navigates the digital wave in education, the critical exploration of MALL serves as a compass, guiding educators, policymakers, and stakeholders toward an informed and effective integration of technology into

language pedagogy. The symbiotic relationship between technology and language acquisition, when harnessed judiciously, has the power to not only overcome educational disruptions but also to foster a generation of linguistically adept and globally competitive individuals.

In the throes of transformative times, the educational panorama underwent a profound paradigm shift. Seminars gracefully transformed into webinars, traditional speeches metamorphosed into blogs and vlogs, while classroom presentations and meetings seamlessly embraced the digital sphere. The closure of educational institutions mandated a swift pivot towards online learning, emerging as the cornerstone for the continuity of education. Faced with mandatory shutdowns, schools, colleges, classes, and coaching centres found solace in the embrace of the online mode of learning.

During these exigent circumstances, students armed with an arsenal of mobile phones, laptops, tablets, and iPads harnessed the digital frontier to prevent interruptions in their education. The digital revolution emerged as the vital catalyst ensuring an uninterrupted learning experience for students across the academic spectrum. Mobile Learning (M-Learning) left an indelible mark on educational practices, underscoring the transformative potential of digital education.

1.1.21 Advantages, Challenges and Myths related to the Mobile-Assisted Language Learning (MALL)

Advantages of Mobile Assisted Language Learning (MALL)

- **Accessibility and Ubiquity:** The widespread ownership of mobile phones, especially in countries like India, makes MALL an accessible learning tool for a large population. The ubiquity of mobile phones ensures that learners have constant access to learning resources.
- **Convenience and Flexibility:** MALL offers learners the flexibility to engage in language learning anytime, anywhere. With mobile devices, learners can adapt their learning schedule to their convenience, making it suitable for individuals with busy lifestyles.
- **Cost-Effective Learning:** Mobile learning can be a cost-effective alternative, saving learners from expenses related to travel,

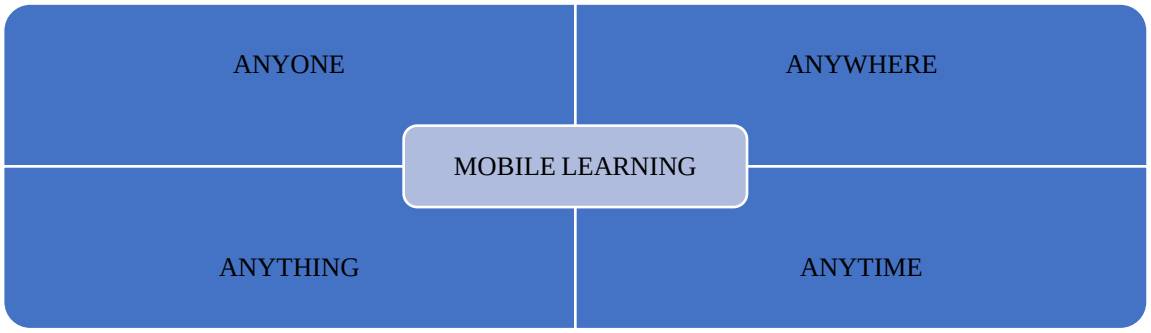
accommodation, and physical learning materials. Smartphones, which are commonly owned, are more affordable than laptops or desktop computers.

- **Productivity and Student-Centric Learning:** MALL promotes student-centric learning, allowing learners to take control of their educational journey. It fosters productivity as learners can personalize their learning experience, focusing on areas that require improvement.
- **Global Access to Courses:** Online language learning courses enable learners from any part of the world, including remote areas, to access quality education. This global access expands opportunities for learners who may face geographical constraints.
- **Resource Savings and Creativity:** MALL reduces the need for physical learning materials. Digital resources such as videos, audio files, and interactive content enhance the learning experience, making it more engaging and creative.
- **Future Reference and Exam Convenience:** Learners can download lectures, resources, and study materials for future reference, creating a personalized repository of learning materials. Online exams conducted through mobile devices offer convenience and flexibility to learners.
- **Inclusivity:** MALL supports learners of all ages and abilities, including those with disabilities. The accessibility features of mobile phones enhance inclusivity in language education.
- **Boost in Self-Confidence:** For female students in rural areas, MALL provides an opportunity to learn English from the comfort of their homes. This can lead to a boost in self-confidence, especially when faced with challenges related to physical mobility.
- **Additional Certificate Courses:** Online learning platforms allow learners to pursue additional certificate courses alongside regular studies. This flexibility in course selection enhances the overall learning experience.
- **Internet Connectivity:** Mobile phones offer constant internet connectivity within network ranges, enabling learners to access online

forums, dictionaries, and learning materials at any time. This continuous connectivity facilitates quick information retrieval.

- **Battery Life:** The extended battery life of mobile phones, lasting 10-12 hours, ensures that learners can engage in language learning without frequent disruptions due to charging.
- **Inclusive Learning Environment:** MALL contributes to creating an inclusive learning environment, breaking down geographical and physical barriers. Learners of diverse backgrounds and ages can participate in language learning without going to a physical educational institution.

Overall, the advantages of MALL contribute to the democratization of language education, making it more accessible, flexible, and tailored to individual learner needs.



Challenges of Mobile-Assisted Language Learning (MALL)

- **Low Storage Capacity:** Limited storage on mobile devices may pose challenges for learners who need to download and save a significant amount of learning materials.
- **Network Issues:** Connectivity issues can disrupt online lectures, leading to interruptions, poor-quality audio, or video buffering.
- **Concentration and Distraction:** Learners may find it challenging to maintain concentration in a mobile learning environment, and distractions from notifications or other apps can impact focus.
- **Lack of Self-Discipline:** Mobile learning requires a high level of self-discipline, and some learners may struggle to stay motivated and consistent in their studies without direct supervision.

- **Social Interaction:** Introverted students may face difficulties connecting with classmates in an online learning setting. Building relationships and engaging in collaborative activities may require extra effort.
- **Data Loss Risks:** Mistakenly losing data, such as deleting important files or notes, is a potential risk with the easy-to-click nature of mobile interfaces.
- **Technology Operation Skills:** Learners need to develop skills in operating mobile technology, and those unfamiliar with digital tools may find it challenging to navigate learning platforms.

Myths Related to Mobile-Assisted Language Learning (MALL)

- **Difficulty Adapting to Digital Learning:** There is a myth that it is challenging to adapt to the digital mode of learning, requiring extensive technical skills whereas in reality mobile learning platforms are designed for user-friendly experiences, and learners can adapt with minimal technical skills.
- **Cost of Certified M-Learning Courses:** Many online language learning courses are available at varying price ranges, and affordable options exist for learners but there is a common myth that certified m-learning courses, especially international ones, might be too expensive to afford.
- **Solo Learning without Tutor Support:** There is a myth that m-learning implies studying on one's own without the support of a tutor to help or clear doubts whereas in reality, many m-learning courses provide tutor support, online forums, and resources for doubt clarification.
- **Lack of Interaction in Online Classes:** Many m-learning platforms incorporate interactive features, discussion forums, and collaborative activities to facilitate learner interaction but there is a common myth that online classes in m-learning lack interaction and are teacher-centric.

Addressing these challenges and debunking myths is crucial for fostering a positive perception of MALL and ensuring effective language learning experiences for learners.

1.1.22 Insights from Educators: Unveiling the Efficacy of M-Learning in English Language Education

The research seeks to solicit the insights of educators concerning the efficacy of teaching the English language through mobile devices in the era of digital transformation. By employing a Checklist-cum-Questionnaire, educators are prompted to reflect on their experiences with m-learning, exploring aspects such as effectiveness in conveying English language concepts, student engagement levels, and the adaptability of m-learning in diverse educational settings.

The interview-based component of the research endeavours to extract nuanced perspectives from educators. These conversations delve into the practical implications, challenges faced, and innovative practices employed by educators utilizing m-learning for English language instruction. By combining quantitative and qualitative data, the research aspires to provide a comprehensive understanding of the multifaceted impact of m-learning on English language education.

The integration of m-learning into the educational framework marks a transformative juncture in the evolution of learning methodologies. As classrooms expand beyond physical boundaries, m-learning stands as a testament to the resilience and adaptability of education in the face of unforeseen challenges. The research endeavours to unravel the layers of m-learning, exploring its potential, challenges, and the collective wisdom of educators navigating this digital frontier.

As we navigate the digital epoch, the insights garnered from this research are poised to guide educational policymakers, institutions, and educators in harnessing the full potential of m-learning. The synthesis of traditional pedagogical wisdom with the dynamism of digital education opens new vistas for the future, promising an inclusive and accessible education landscape for generations to come.

1.1.23 Scope of the Study: Exploring Mobile Learning in English Language Education - A Focus on Gujarat

The scope of the present study revolves around the exploration of innovative methodologies for teaching and learning, with a specific emphasis on the acquisition of the English language (ELL). This research delves into the realm of mobile learning (m-learning) and its influence on students, juxtaposed with the perspectives of educators regarding the integration of this novel approach to language education. It seeks to evaluate whether mobile learning presents an efficient and appealing mode for teaching and acquiring language skills, particularly considering the heightened affinity of millennials for mobile phones and smart devices. Moreover, in the post-COVID-19 era, it has become evident that a substantial number of educators have acclimated themselves to virtual English language instruction.

The core objective of this research is to assess the viability of employing m-learning classrooms for English language education in the state of Gujarat. This study endeavours to gauge the extent to which teachers in Gujarat view mobile learning as beneficial and whether they receive adequate support from educational institutions in the promotion of mobile learning for English language acquisition.

Furthermore, this research embarks on a quest to comprehend the needs of educators and the expectations of students within the digital landscape. It seeks to unravel their perspectives concerning mobile learning classrooms and English language acquisition through mobile phones. The questionnaire encompassed within this research delves into various facets of English language instruction through mobile phones and solicits the insights of educators on mobile learning.

Specific inquiries include whether mobile learning diverges significantly from traditional classroom methodologies and whether educators perceive themselves as receiving adequate support from educational institutions to facilitate online instruction. The checklist-cum-questionnaire-based methodology is explicitly tailored to gauge the willingness of professors to

embrace mobile phones as pedagogical tools for English language instruction in the state of Gujarat.

The research is further attuned to discern whether students avail themselves of the opportunities presented by Massive Open Online Course (MOOC) platforms and whether educational institutions actively encourage student participation in MOOC classes or simply overlook the potential of mobile learning. In cases where educational institutions do not actively promote MOOC and digital learning, and where student participation in such online platforms remains limited, the research seeks to uncover the underlying reasons. This exploration paves the way for the potential expansion of the study's scope, contributing to further research endeavours.

1.2 The Rationale of the Study

In the 21st century, the mobile phone has evolved into an indispensable facet of everyday life, assuming the role of an invaluable educational tool. Notably, mobile phones equipped with smart functions are readily available at affordable prices in the Indian market, making them accessible to a vast majority of the population in comparison to other mobile learning (m-learning) devices. Consequently, many Indian households possess multiple mobile phones, providing individuals with the opportunity to procure mobile devices for educational purposes. This accessibility to mobile learning offers a promising avenue, diminishing the need for individuals to undertake arduous journeys to metropolitan centres in pursuit of English language education. However, the full realization of mobile phones as educational tools, readily available to all, is yet to permeate every nook and cranny of India.

The year 2020 witnessed the unprecedented COVID-19 outbreak, compelling individuals to retreat to the safety of their homes and abandon conventional modes of education. In this context, mobile phones, alongside digital media, emerged as indispensable pillars supporting the education sector. Despite occasional technical glitches, the education system exhibited remarkable adaptability, remodelling itself to facilitate the smooth conduct of educational activities. Classes, examinations, practical assessments, vivas, conferences,

and webinars were all seamlessly orchestrated through the utilization of mobile phones, tablets, iPads, laptops, and computers.

While the government has introduced an array of Massive Open Online Courses (MOOCs), some of which are offered at nominal fees, with a few even being accessible free of charge, the demand for mobile-assisted language learning (MALL) remains significantly below its potential due to a lack of awareness among learners regarding these government initiatives. Consequently, this research is indispensable in its pursuit of comprehending the perspectives of educators concerning MALL, in addition to investigating the behavioural patterns of their students when it comes to mobile learning as a tool for English language acquisition.

This research undertaking also seeks to elucidate the impediments preventing learners from embracing mobile learning and the online education system. It is further instrumental in assessing whether the Covid-19 lockdown served as a catalyst in the promotion of mobile learning, digital libraries, and MOOC learning among students.

Ultimately, this research endeavours to advocate for government initiatives and the widespread utilization of MOOC learning programs, thereby paving the way for greater accessibility to English language education and improving the overall landscape of language learning in India. The study aims to shed light on the untapped potential of mobile learning and its role in democratizing education, breaking down barriers, and creating a more inclusive and accessible learning environment for all.

1.3 Research Hypotheses

In the contemporary educational landscape, where technology and digitization have become intrinsic to the learning experience, the study of language acquisition, particularly in the context of English language learning, stands at the intersection of tradition and innovation. One of the pioneering advancements in this domain is Mobile Assisted Language Learning (MALL), a dynamic approach that capitalizes on the ubiquitous presence of mobile devices to facilitate language instruction. This doctoral research embarks on a critical evaluation of the efficacy of digital teaching and learning of the

English language through Mobile Assisted Language Learning (MALL), endeavouring to unravel the intricacies of this evolving pedagogical approach. To systematically investigate the myriad dimensions of this research, the following 15 research hypotheses are formulated:

1. Teachers' perception of digital teaching and learning of the English language through MALL significantly impacts the effectiveness of language education.
2. There exists a substantial difference between digital learning and traditional learning, with MALL demonstrating significant potential for enhancing English language acquisition.
3. Both educators and students perceive teaching and learning the English language through mobile phones as more effective, convenient, and flexible compared to traditional methods.
4. The utilization of mobile phones for English language learning is positively correlated with students' academic performance and overall learning outcomes.
5. Educators' perception of students' reliance on mobile learning significantly influences the extent to which students prefer and adapt to web-based learning through mobile devices over traditional methods.
6. Mobile phones offer high accessibility to a diverse array of study materials, thereby enhancing students' access to learning resources for English language education.
7. The Covid-19 lockdown has led to a significant shift towards m-learning, resulting in educators and students displaying increased comfort with using mobile phones for teaching and learning the English language.
8. Educational institutions that actively promote mobile learning, MOOC learning, and digital libraries among students positively impact the adoption and effectiveness of these initiatives.
9. The limitations and challenges associated with m-learning and teaching the English language through mobile phones significantly influence the overall efficacy of this pedagogical approach.

10. Educators' readiness and willingness to embrace mobile learning are key determinants in the successful implementation of MALL as a primary mode of English language instruction.
11. The active engagement of students with MOOC learning platforms and digital libraries significantly contributes to their overall proficiency in English language acquisition.
12. MALL is effective in addressing the diverse learning needs and preferences of students, particularly those residing in rural and remote areas.
13. MALL positively impacts students' language proficiency, communication skills, and overall confidence in using the English language.
14. Educators' role in promoting awareness and utilization of government initiatives related to digital language learning significantly influences students' engagement with these platforms.
15. The evolving interplay between mobile learning, traditional classroom instruction, and the contemporary educational landscape significantly shapes the trajectory of technology in English language education.

These research hypotheses serve as guiding principles for this study, offering a structured framework for comprehensive investigation and analysis. The results and findings are anticipated to contribute to the evolving landscape of language education, offering valuable insights for educators, students, and educational institutions striving to harness the full potential of digital and mobile learning in the pursuit of English language proficiency.

1.4 Research Questions

In the digital age of education, marked by a growing reliance on technology and innovation, the acquisition of language skills, particularly the learning of English, has undergone a paradigm shift. One of the pivotal advancements in this context is Mobile Assisted Language Learning (MALL), which leverages the ubiquity of mobile devices to reshape language instruction. This doctoral research seeks to critically evaluate the effectiveness of digital teaching and learning of the English language through Mobile Assisted Language Learning

(MALL), embarking on a journey to unravel the complexities and nuances of this evolving educational approach.

To guide this comprehensive inquiry, we frame 15 research questions that will systematically unravel the facets of this research:

1. What are the primary factors that influence teachers' perceptions of the efficacy of digital teaching and learning through MALL?
2. How does the impact of digital learning compare to traditional learning, and what is the potential of MALL in enhancing English language acquisition?
3. What are the key determinants that shape the perceptions of educators and students regarding the effectiveness, convenience, and flexibility of English language teaching and learning through mobile phones?
4. To what extent is the utilization of mobile phones for English language learning linked to students' academic performance and overall learning outcomes?
5. How do educators perceive students' reliance on mobile learning, and to what degree does this influence students' preference for web-based learning via mobile devices over traditional methods?
6. How does the accessibility of a diverse array of study materials through mobile phones influence students' access to learning resources for English language education?
7. What is the extent of the impact of the COVID-19 lockdown on the adoption of m-learning, and how does it relate to educators' and students' comfort with using mobile phones for English language instruction post-lockdown?
8. To what extent do educational institutions' efforts to promote mobile learning, MOOC learning, and digital libraries impact the adoption and effectiveness of these initiatives?
9. What are the most prominent limitations and challenges associated with m-learning and the teaching of the English language through mobile phones?

10. To what degree do educators' readiness and willingness to embrace mobile learning influence the successful implementation of MALL as a primary mode of English language instruction?
11. What is the impact of students' active engagement with MOOC learning platforms and digital libraries on their overall proficiency in English language acquisition?
12. In what ways does MALL address the diverse learning needs and preferences of students, particularly those residing in rural and remote areas?
13. How does MALL positively influence students' language proficiency, communication skills, and overall confidence in using the English language?
14. What role do educators play in promoting awareness and utilization of government initiatives related to digital language learning, and how does this influence students' engagement with these platforms?
15. How does the evolving interplay between mobile learning, traditional classroom instruction, and the contemporary educational landscape shape the trajectory of technology in English language education?

These research questions provide the framework for an in-depth exploration of MALL and its implications on English language instruction, shedding light on the nuanced dynamics that underlie this transformative pedagogical approach.

1.5 Research Objectives

In the modern era, marked by rapid technological advancements and shifting paradigms in education, the realm of language acquisition, particularly in the context of English language learning, has undergone a significant transformation. As technology continues to permeate every facet of our lives, the conventional classroom model is increasingly supplemented, if not replaced, by digital modes of instruction. A notable innovation in this sphere is Mobile Assisted Language Learning (MALL), which harnesses the ubiquity of mobile devices to facilitate language education. In this context, this doctoral research embarks on a critical evaluation of the efficacy of digital

teaching and learning of the English language through Mobile Assisted Language Learning (MALL).

This study endeavours to comprehensively assess the impact and feasibility of MALL by elucidating the perspectives of educators and students, with a focus on the following 15 research objectives:

1. To evaluate teachers' perception of the efficacy of digital teaching and learning of the English language through MALL.
2. To analyse the significant difference between digital learning and traditional learning and the potential of MALL for the English language.
3. To understand and analyse if teachers and students find teaching and learning of the English language through mobile phones more effective, convenient, and flexible.
4. To analyse the impact of mobile phones for English language learning on students' results and outcomes.
5. To understand the perception of teachers about students' dependency on mobile learning for learning the English language and if students are more comfortable learning through the web and using mobile phones than traditional learning.
6. To understand the accessibility of a variety of study materials through mobile phones.
7. To understand the impact of the Covid-19 lockdown on m-learning, if teachers and students are more comfortable using mobile phones for teaching and learning of the English language after the Covid-19 lockdown.
8. To understand if any measures are taken by colleges/universities/educational institutes to promote mobile learning, MOOC learning, and digital libraries among students.
9. To analyse the limitations and challenges of M-learning and teaching the English language through mobile phones.
10. To explore the readiness and willingness of educators to adapt to mobile learning as a primary mode of English language instruction.

11. To analyse the extent to which students actively engage with and benefit from MOOC learning platforms and digital libraries in the context of English language education.
12. To evaluate the effectiveness of MALL in catering to the diverse learning needs and preferences of students, including those residing in rural and remote areas.
13. To assess the impact of MALL on enhancing students' language proficiency, communication skills, and overall confidence in using the English language.
14. To investigate the level of awareness and utilization of government initiatives related to digital language learning, and the potential role of educators in promoting these initiatives among students.
15. To analyse the interplay between mobile learning, traditional classroom instruction, and the current educational landscape, to understand the evolving role of technology in English language education.

This research aims to shed light on the evolving landscape of language education and contribute valuable insights for educators, students, and educational institutions seeking to harness the potential of digital and mobile learning in the pursuit of English language proficiency.

1.6 Research Methodology

Research methodology serves as the guiding framework for conducting a study, outlining the procedures undertaken by the researcher. In this research endeavour, a semi-structured questionnaire has been employed to gather relevant data from English language teachers in the state of Gujarat. This dual-method approach aims to comprehensively capture the insights and perspectives of educators regarding the integration of mobile learning in English language instruction.

The primary data collection methods involve a meticulously designed questionnaire and open-ended interviews conducted with English language teachers. The structured questionnaire serves as a quantitative tool, facilitating the collection of numerical data, while open-ended interviews

offer a qualitative exploration of the teachers' perspectives. This combination allows for a holistic understanding of the varied experiences and opinions related to mobile learning in English language education.

The analysis of the collected data is a crucial phase in deriving meaningful insights from the research. Both qualitative and quantitative research methodologies will be employed for a comprehensive analysis. Statistical tools will be utilized to interpret the quantitative data gathered from the questionnaire and interviews. This statistical analysis aims to quantify trends, patterns, and correlations within the data, providing a numerical foundation for understanding the prevalence of certain opinions and attitudes among the participants.

The research samples consist of English language teachers from colleges, institutes, and universities across both rural and urban areas of Gujarat. This diverse selection ensures a representation of varied perspectives and experiences within the state. The inclusion of both rural and urban settings acknowledges the potential differences in access, resources, and attitudes towards mobile learning in English language education.

The research specifically delves into understanding the opinions of teachers regarding the teaching and learning of the English language using mobile devices. The focus is on exploring the perceived benefits, challenges, and overall feasibility of integrating mobile learning into English language instruction.

The scope of the research is limited to the state of Gujarat, recognizing the uniqueness of the local context and educational landscape. By concentrating on a specific geographic area, the study aims to provide insights that are contextually relevant and reflective of the experiences of English language teachers in Gujarat.

In essence, the research methodology outlined here is a systematic and comprehensive approach designed to unravel the intricate dynamics of mobile learning in the realm of English language education. Through a judicious blend of quantitative and qualitative methods, the study endeavours to paint a

nuanced picture of the current landscape, providing valuable insights for educators, policymakers, and researchers alike.

1.7 Theoretical Framework

The theoretical framework of the PhD thesis on "A Critical Evaluation of the Efficacy of the Digital Teaching and Learning of English Language Through Mobile Assisted Language Learning (MALL)" is structured upon foundational theories and concepts in the domains of language learning, educational technology, and pedagogy. This framework provides the theoretical lens through which the study examines the effectiveness and implications of MALL in English language education.

Constructivism serves as a cornerstone in the theoretical framework, emphasizing the active role of learners in constructing knowledge through their experiences and interactions. In the context of MALL, constructivist theories highlight the learner's autonomy and agency in engaging with digital resources and tools to construct their understanding of the English language. This perspective aligns with the notion that learners actively construct meaning by integrating new linguistic knowledge with their existing cognitive frameworks.

Socio-cultural theory, particularly as espoused by Vygotsky, emphasizes the social and cultural dimensions of learning. Within the realm of MALL, this theory underscores the importance of social interactions and collaborative learning environments facilitated by digital platforms. It posits that language learning occurs through social interactions with peers, teachers, and digital communities, where language learners engage in dialogic exchanges to co-construct knowledge and develop language proficiency.

TPACK framework integrates technological knowledge, pedagogical knowledge, and content knowledge to inform effective teaching practices in digital learning environments. In the context of MALL, TPACK framework guides educators in leveraging digital technologies to facilitate English language instruction while aligning with pedagogical principles and language learning objectives. It emphasizes the importance of integrating technology

seamlessly into language teaching practices to enhance learner engagement and achievement.

Dual Coding Theory posits that learners process and retain information more effectively when it is presented both verbally and visually. In the context of MALL, this theory underscores the importance of multimodal learning resources, such as audio-visual materials and interactive multimedia, in facilitating English language learning. By providing learners with multiple modes of representation, MALL enhances comprehension, retention, and application of linguistic knowledge.

Connectivism, proposed by Siemens, posits that learning is facilitated by networks of connections within digital environments. In the context of MALL, connectivism emphasizes the role of digital networks, online communities, and open educational resources in supporting English language learners. It highlights the importance of digital literacy skills and the ability to navigate online resources effectively to access, evaluate, and utilize information for language learning purposes.

UDL framework emphasizes the importance of providing multiple means of representation, engagement, and expression to accommodate diverse learner needs and preferences. In the context of MALL, UDL principles guide the design of digital learning materials and platforms that cater to a wide range of English language learners, including those with varying linguistic abilities, learning styles, and cultural backgrounds. By incorporating flexibility and customization options, MALL promotes inclusivity and accessibility in English language education.

Transactional Distance Theory, proposed by Moore, explores the psychological and communication space between the learner and the instructor in distance education contexts. In the context of MALL, this theory elucidates the dynamics of learner autonomy, interaction, and self-regulation in digital learning environments. It emphasizes the importance of fostering instructor presence, social presence, and cognitive presence to minimize transactional distance and enhance learner engagement and satisfaction in English language learning.

The theoretical framework outlined above provides a comprehensive lens through which to evaluate the efficacy of digital teaching and learning of the English language through MALL. By integrating constructivist, socio-cultural, and technological perspectives, along with theories such as TPACK, Dual Coding, Connectivism, UDL, and Transactional Distance, the study seeks to illuminate the complex interplay between technology, pedagogy, and language learning outcomes in digital environments. Through this theoretical lens, the study aims to contribute to a deeper understanding of MALL's potential to enhance English language education and inform effective instructional practices in digital learning contexts.

1.8 Chapterization

The thesis is meticulously organized into five chapters, each playing a distinct role in shaping the narrative and contributing to the holistic understanding of the research study.

Chapter 1: Introduction

This inaugural chapter sets the stage for the entire thesis, providing a comprehensive introduction to the research. It elucidates the background, objectives, and significance of the study. The chapter delves into the emergence of Information and Communication Technology (ICT) in English Language Teaching (ELT) and Mobile-Assisted Language Learning (MALL). Emphasis is placed on the relevance of the research in the modern-day education system, aligning it with the National Education Policy (NEP) of 2020. Furthermore, the chapter outlines the research's objectives, methodology, scope, and limitations.

Chapter 2: Comprehensive Review of Relevant Literature

The second chapter undertakes a thorough examination of relevant literature, delving into key concepts such as m-learning skills, the benefits of mobile learning, and misconceptions related to digital learning. It traces the evolution from traditional to m-learning classes, exploring opportunities in MALL and referencing various studies in the field. Theses, articles, research papers, as well as documents from UGC and MoE, are scrutinized to identify gaps in existing research, providing a foundation for the current study.

Chapter 3: Research Methodology

The third chapter meticulously explains the methodology employed in the proposed study. It delineates the study's design, procedures, and offers a detailed explanation of the research context. The chapter provides insight into the research method and outlines the data collection process through a checklist-cum-questionnaire. The collected data undergoes qualitative and quantitative analysis. The research sample consists of English language teachers from colleges and universities in the state of Gujarat.

Chapter 4: Exploring Data: Interpretations and Analysis

In the fourth chapter, the focus shifts to presenting and discussing the results derived from the collected data. The chapter employs statistical tools such as graphs, charts, and tables to analyse hypotheses and provide a detailed evaluation of the sample. Theoretical explanations are interwoven with the statistical analysis, shedding light on the findings related to mobile-assisted language learning.

Chapter 5: Conclusion

The concluding chapter synthesizes the entire study, drawing upon the findings from the sample results and the analysis of hypotheses. It offers recommendations and suggestions for further research endeavours, encapsulating the essence of the study and its implications for the field of English language education.

In essence, the Chapterization of the thesis provides a structured and logical progression, guiding the reader through the research journey from introduction to conclusion, ensuring a comprehensive exploration of the topic at hand.

1.9 Relevance of the Study in the Context of NEP 2020

In July 2020, the National Education Policy (NEP) was introduced by the Ministry of Education (MoE), presenting a comprehensive framework to enhance the education system in India. The relevance of this study in the context of NEP 2020 is evident in several key aspects:

- **Digitalization Vision:** NEP 2020 envisions the digitalization of the education system, emphasizing the integration of technology. The study aligns with this vision by exploring the role of mobile learning, technology-enhanced language learning, and MOOCs.
- **Introduction of Technology:** The policy emphasizes the introduction of technology, including artificial intelligence, machine learning, and handheld computing devices. The study addresses the role of mobile phones as a tool for language learning and explores their potential impact on education.
- **E-Education and NETF:** NEP 2020 outlines the establishment of the e-education unit and the National Education Technology Forum (NETF) to promote digital content. The study's focus on mobile learning and technology-enhanced language learning is in line with these initiatives.
- **Digital Infrastructure:** The policy emphasizes creating digital infrastructure, and the study explores the use of mobile phones in providing accessibility, especially in the context of language learning.
- **Pedagogy and Online Teaching:** NEP 2020 emphasizes the need for pedagogical support for online teaching. The study aligns with this by examining teachers' perspectives on mobile learning, online teaching, and the challenges and advantages they perceive.
- **Teacher Training:** The policy highlights the importance of teacher training for online and digital teaching. The study explores teachers' opinions on technology, mobile learning, and their training needs in the digital era.
- **Role of Teachers:** NEP 2020 recognizes the crucial role of teachers and their need for training in learner-centric pedagogy. The study's exploration of teachers' perspectives contributes to understanding their role in facilitating online learning.
- **NETF as a Platform:** The establishment of NETF as a platform for exchanging ideas aligns with the study's goal of understanding teachers' opinions and experiences related to mobile learning and online education.

- **Alternate Modes of Learning:** NEP 2020 acknowledges the need for alternate modes of learning in situations like the Covid-19 pandemic. The study's exploration of mobile learning during the pandemic is directly relevant to this aspect.
- **Research Focus on Online Teaching:** The policy suggests the need for research on technology and educational grounds, which resonates with the study's focus on understanding teachers' opinions about online learning and mobile phones.
- **MOOCs and SWAYAM:** NEP 2020 emphasizes the role of online platforms like SWAYAM and promotes MOOCs. The study explores the relevance and impact of MOOCs and technology-enhanced language learning.

This research study is highly relevant to NEP 2020 as it aligns with the policy's goals, initiatives, and areas requiring further research. It contributes to the understanding of teachers' perspectives, the role of technology in education, and the impact of mobile learning and MOOCs on the education landscape.

1.10 Limitations of the Study

The current research, like any study, is not without its limitations. These limitations are constraints and shortcomings that may be beyond the researcher's control. The following are some of the limitations identified in the study:

- The study faced limitations in terms of both sample size and variables due to constraints in time and space.
- The findings and outcomings are specific to the Gujarat state only. While the researcher believes that the teaching methodology may be applicable in other parts of India, it is essential to recognize that the study's results are drawn solely from Gujarat.
- The researcher is confined to mobile learning in English Language Teaching (ELT). Although various ICT tools could be employed in ELT, this study specifically focuses on the use of mobile phones.

- The study relies on responses from English language teachers in colleges, institutes, and universities in Gujarat. While efforts were made to include a diverse range of participants, it was not possible to cover all institutions in the state.
- The study primarily utilizes Checklist-cum-Questionnaires as the main tool for data collection and personal interviews as a secondary source. Responses were carefully examined, and any discrepancies were addressed by excluding them from the analysis.
- The study employs both qualitative and quantitative data, which, while providing a comprehensive understanding, introduces challenges in terms of combining and interpreting the diverse data sets.

It is important to acknowledge these limitations as they provide context for the study's findings and contribute to the ongoing dialogue within the research community.

1.11 Scope of the Further Research

Based on the insights gained from the present study, the researcher recommends further exploration into the application of Mobile Assisted Language Learning (MALL) for English language learning and teaching methodologies. The current research delves into the role of MALL in English language education, particularly from the perspective of teachers, analysing mobile phones as a tool for Information and Communication Technology (ICT) in language learning. It is worth noting that this study is confined to the Gujarat region only.

For further research endeavours, expanding the geographical scope beyond Gujarat to include other states in India would provide a more comprehensive understanding of the applicability and effectiveness of MALL in diverse educational settings. Additionally, there is a potential for investigating the use of alternative devices, such as tablets and iPads, as ICT tools in language learning, either within Gujarat or in other regions of the country.

Furthermore, given the transformative impact of the Covid-19 lockdown on education, there is an opportunity to explore the influence of various ICT tools, beyond mobile phones, on English Language Teaching in the post-

lockdown era. This could encompass a broader range of technology platforms. Looking ahead, the researcher suggests exploring the potential of Massive Open Online Courses (MOOCs) in language learning, both within Gujarat and in other parts of India. This avenue could offer valuable insights into the effectiveness of MOOCs as a mode of education and their impact on English language acquisition.

1.12 Conclusion

The exploration of Mobile-Assisted Language Learning (MALL) and Massive Open Online Courses (MOOCs) in the context of language education has revealed a dynamic landscape shaped by technological advancements. The evolution from traditional teaching methods to technology-driven modes of learning, particularly through mobile phones and online platforms, signifies a paradigm shift in education.

The advantages of MALL and MOOCs are evident in their accessibility, flexibility, and affordability. Mobile phones, ubiquitous in today's society, have become powerful tools for language learners, providing a convenient and portable means of accessing educational content. The rise of MOOCs, marked by platforms like SWAYAM, Coursera, and edX, has democratized education, making quality courses available to learners globally.

However, this technological transformation is not without its challenges. Issues such as low storage on mobile devices, network connectivity problems, and the need for learners to develop self-discipline pose hurdles in the adoption of MALL. Similarly, MOOCs face limitations such as the lack of face-to-face interaction, unsuitability for subjects requiring lab experiments, and a high dropout rate.

The relevance of these technological approaches to language education is underscored by their alignment with the National Education Policy (NEP) 2020 in India. The policy emphasizes the integration of technology in education, promoting digital content, and creating digital infrastructure. The NEP recognizes the importance of online teaching-learning, digital tools, and teacher training in adapting to the changing educational landscape, especially in the aftermath of the COVID-19 pandemic.

The study also sheds light on the perspective of teachers regarding English language learning with mobile phones. Teachers, as facilitators, play a crucial role in guiding students through the challenges and opportunities presented by technology. The research contributes valuable insights that align with the goals of NEP 2020, emphasizing the need for teacher training, learner-centric pedagogy, and the use of technology to enhance learning.

In conclusion, the fusion of technology with language education, as exemplified by MALL and MOOCs, represents a transformative force. As we navigate the complexities of digital learning, addressing challenges and leveraging opportunities, the goal remains to create an inclusive, accessible, and high-quality education system. The journey from traditional classrooms to mobile-assisted and online learning is a testament to the ever-evolving nature of education, propelled by the synergy of pedagogy and technology.

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