

Limitations and Advantages in Implementing MALL in the Tertiary ESL Classrooms: A Review

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ABSTRACT: *Technology-assisted facilities have taken English Language Teaching (ELT) to a different level where Computer Assisted Language Learning (CALL) has become an indispensable feature of leaning a language. Recently, in the current day context of ELT, both learners and teachers are experiencing a positive shift from CALL to another more efficient platform called Mobile Assisted Language Learning (MALL). This paper explores the fundamentals of MALL and its application in ELT. Moreover, it sheds light on the various advantages and limitations in implementing MALL devices like mobile phones, smartphones, kindles and so on in the regular as well as virtual classroom context. It discusses theories on technology-enabled learning and MALL. The primary focus of this paper is to shed light on the perspective of employing MALL in the language classes at the tertiary level.*

Keywords: *Computer Assisted Language Learning (CALL); Mobile Assisted Language Learning (MALL); Advantages and limitation of MALL; MALL theories; MALL methods*

I. INTRODUCTION

After its advent into education at the beginning of this century, mobile leaning has rapidly grown into a common modality in the context of English Language Teaching and Learning (ELT&L). It has open doors for many new opportunities in information and communication technology (ICT) for language learning and pedagogical approaches toward ELT&L. Initially, there used to be a common misunderstanding of the term 'mobile' in this context that the term 'mobile' represents mobilephones alone in the process of teaching and learning. However, mobile learning (ML) is defined as a learning process where the interactions among learners and with the content happen via personal electronic devices which includes handheld computers, MP3 players, notebooks, mobile phones, tablets and so on. According to Mohammadi, E & Shirkamar, I S (2018), mobile-assisted language learning (MALL) is a branch of learning on a mode based on the technology which can be applied in several forms including face-to-face, distant or on-line modes. Similarly, MALL is any form of language learning that takes place at the convenience of the learner in terms of place and time. Gholami, J., & Azarmi, G. (2012) state that the processes of learning and being able to achieve considerable learning experience in, and across, new and ever-changing contexts and learning platforms and most importantly, converting the everyday life-worlds as learning spaces. In MALL, learning happens through any mobile handheld devices such as mobile phones, smartphones, i-pads, phablets and so on (Shield & Kukulsca, 2008). Similarly,

ML is the acquisition of any knowledge or skill through using mobile technology, anywhere and anytime (Geddes, 2004). The following section deals with different modalities of using mobile devices in the ELT&L process. It also explores the theoretical underpinnings of MALL.

A. Modalities

MALL brings a tectonic shift from the routine learning strategies to a technology-oriented approach to re-conceptualize the needs of today's tech-savvy students. Based on the usage of mobile phones, mobile phones have been used in three different modalities:

- (i) Asynchronous mobile phone assisted language learning (AMPALL)
- (ii) Synchronous mobile phone assisted language learning (SMPALL).
- (iii) Teacher moderated synchronous mobile phone assisted language learning (TMSMPLL).

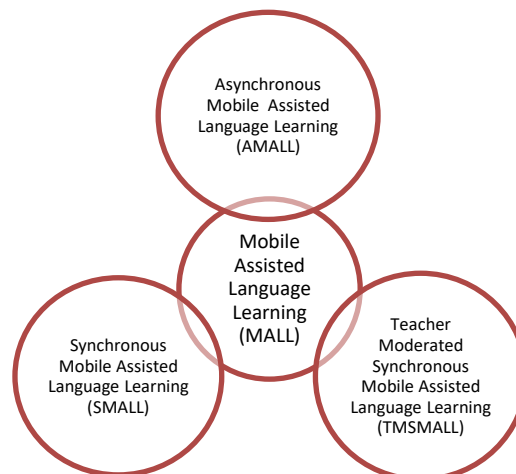


Figure-I: Three Different Modalities of MALL

II. THEORETICAL UNDERPINNING

Theories and models originated from the general theories of learning established such as constructivism, situated learning theories, and so on have been applied to mobile learning and mobile learning pedagogies. The concept of mobile learning deals with the practices that encompass developmental process by simultaneously interlinking individual and social levels of learning (Kutti 1995). This theoretical approach functions as a tool in the process of analyzing mobile learning contexts (Uden 2007). According to the study conducted by Nalliveetil et al., (2016), mobile phones can accelerate students' English language learning abilities.

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They have further discussed that the advantages of learning the English language effectively is one of the major causes for students to buy mobile phones and other mobile devices. The availability and accessibility of technology alone will not yield positive results in the teaching-learning process, whereas the user acceptance of technology becomes a prime concern in the process. Moreover, it has been an important field of study for over two decades now (Chuttur 2009). As teachers and students are the prime members of the teaching-learning process, their acceptance of technology as an effective mode of learning becomes a major area of concern. Fred Davis (1985), proposed the Technology Acceptance Model (TAM), where he states three phases: (i) System Features and Capabilities, (ii) User's Motivation to use the system and (iii) Actual System Use. He further discusses that the system use is a response that can be explained or predicted by user motivation, which, in turn, is directly influenced by an external stimulus consisting of that actual system's features and capabilities.

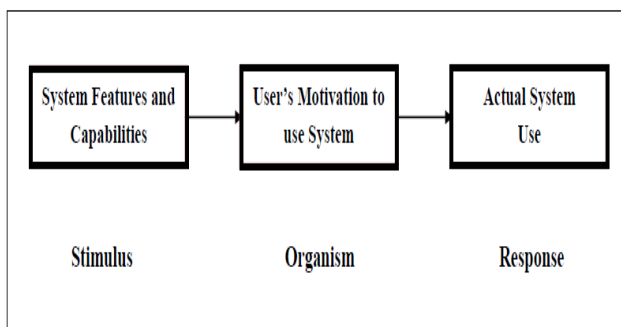


Figure-II: Technology Acceptance Model (TAM)
(Davis F, 1985)

Venkatesh et al. (2003) further studied TAM and introduced an improved version in the year 2003.

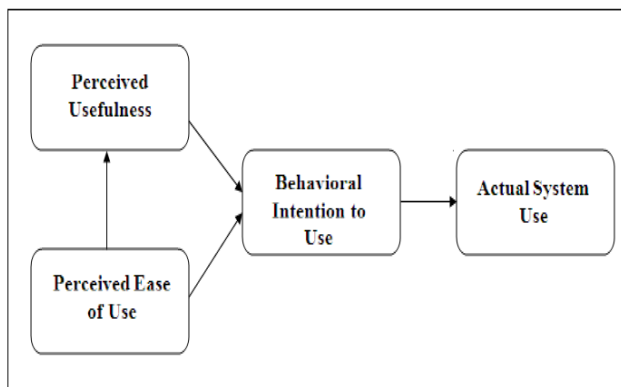


Figure-III: Technology Acceptance Model (TAM)
(Venkatesh et al., 2003)

Teachers and students believe that a particular system if incorporated into the teaching-learning process would enhance their performance; this degree of belief is known as Perceived usefulness (PU). Similarly, the degree to which they believe using a particular system would be free from effort is known as perceived ease of use (PEOU). Both PU and PEOU contribute to behavioural intention to use (BIU) which is when they intend to use and not out of compulsion, and this complements or results in a positive and effective actual system use (ASU). To identify if the characteristics of learning as a community in a virtual environment and its impact on the teachers and students at the higher education level, Wenger (1998) proposed the e-learning ladder model.

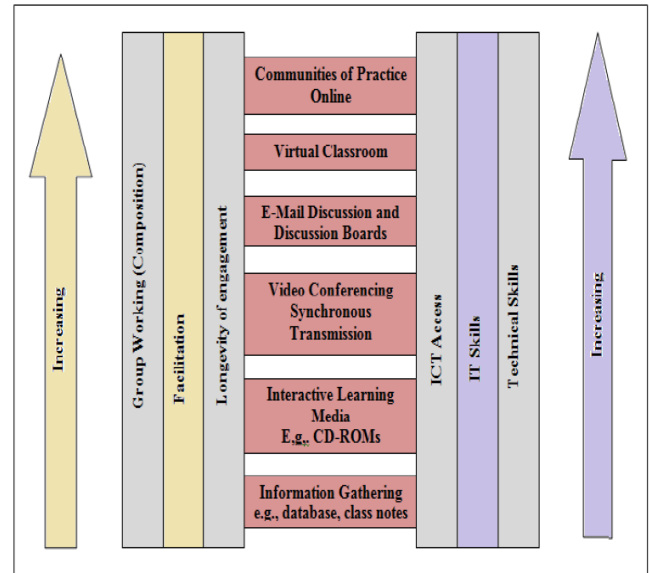


Figure-IV: The E-Learning Ladder Model

According to Moule (2006), this model presents a range of approaches starting with an isolated approach to teaching and learning at the bottom 'rung' of the learning ladder. This instructivist approach continues until the constructivist or interactive learning approach begins. This is where the teacher plays a vital role in the teaching-learning process. The ladder model presents the positioning of learning from instructivist to constructivist levels.

III. MAJOR STUDIES ON MALL: A REVIEW

Klopfer et al (2002), on mobile devices, have come out with ideas that help the learner understand the advantages of using these devices in their learning process. Portability of the mobile devices forms one of the greatest advantages. Such devices can be easily taken to different places without any limitations in terms of size or weight. This feature of these devices results in better social interactivity, where sharing of information and engaging in collaborative projects and learning have been made possible. Another major advantage is context sensitivity which enables the learners to gather and respond uniquely to the information on the mobile devices without compromising on space and time. Similarly, connectivity empowers the learners to connect mobile devices to other devices and different networks by creating a shared network. Most importantly, these devices enable the individual learner to customize the learner environment for better output. Based on the Telephone Regulatory Authority of India (TRAI) report 2020, the number of telephone subscribers in India increased from 1,172.44 million at the end of Dec-19 to 1,177.02 million at the end of Jan-20, thereby showing a monthly increase rate of 0.39%. Fig. 5 show the state-wise teledensity of the country.

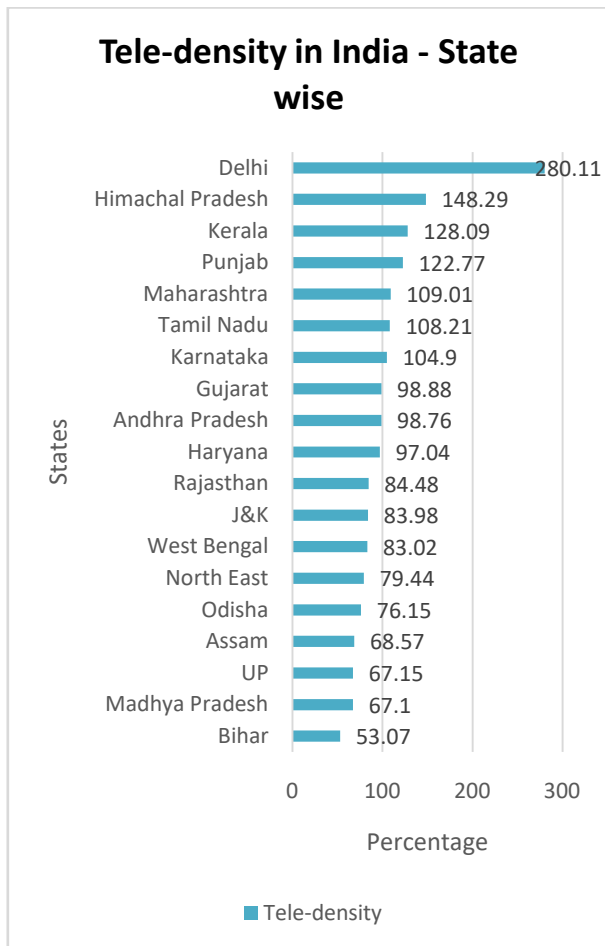


Figure-V: State-wise Tele-density in India (TRAI report 2020)

The above data proves the availability of mobile devices that are compatible with learning. However, the fact that connectivity is an issue in certain remote areas cannot be ignored totally, but learning English language using mobile devices could be enabled using strategies such as asynchronous learning where learner need not be online throughout during the learning process. The focus from Computer Assisted Language Learning (CALL) is taking a positive shift towards MALL. Tai and Ting (2011) have examined the fundamental issues in deploying mobile technology-mediated language learning, including teacher attitudes and challenges faced, for a feasible adoption approach. During the study, six pre-service teachers were introduced to a mobile device and asked to collaboratively design and implement MALL programme. Perceived usefulness, ease of use of the device, and their predisposition to innovate the device were surveyed. The findings proposed that organizational effort should focus on providing knowledge and experience of mobile technology to teachers, or arranging a special design task for teacher participation. Meurant, R. C. (2006) reviewed the implications of incorporating mobile phones in second language acquisition (SLA). In this review, he considers the intentional use of mobile phones in a class by the teachers and learners to provide ubiquitous computer-mediated SLA. The reviewed literature presents a general orientation and conceptual framework and identifies their relevance to task-based learning, the potential for distributed practice, and suitability for encouraging classroom interactivity. Both these studies provide adequate information on the

incorporation of mobile devices in SLA. Khazaie, S & Ketabi, S (2011), in their study, have employed multimedia platform to develop three types of vocabulary learning materials. During the study, careful consideration was given to the different visual and verbal short-term memories of L2 learners. 158 L2 learners aged 18-23 participated in the major phases of vocabulary learning experiment through mobile. Based on their scores on the English Vocabulary and Recall tests and statistical analysis of the results it was revealed that L2 learners with high-visual and high-verbal abilities find it easier to learn the content presented with both pictorial and written annotations. On the other hand, L2 learners with low-visual and low-verbal abilities benefit from learning materials presented without annotations. Also, delivery of learning materials with pictorial annotation to learners with high-visual ability and the delivery of learning materials with written annotation to learners with high-verbal ability resulted in better vocabulary learning.

IV. LIMITATIONS IN INCORPORATING MALL

Currently, technology is considered to be a powerful supplementation and mode for teaching-learning processes, and has an important role in the world and affects almost every aspect of teaching and learning. Mobile learning puts forward a wider range of challenges and pitfalls for both teachers and students regarding all the mobile devices (Mohammadi, E., & Shirikamar, Z. S. 2018). Incorporation of MALL in the L2 classroom, based on the literature review, proved to be effective. On the other hand, there are certain limitations in using mobile devices in the teaching and learning process. The limitations are classified as (i) Psychological (ii) Pedagogical and (iii) Technical.

A. Psychological limitations

Learners prefer M-learning when they are away from their classrooms. Any learning activity needs effort and brainwork. After class hours, learners prefer to relax and how many of them want to study or learn rather than relax on the bus or in the car on the way home after a long day of study? When they get home, if they want to learn, mobile devices are not likely to be their main choice. The more likely choices would be computers installed with learning software or computers with high-speed Internet access for e-learning. Mobile phones will mainly be used for communications with other people and not for learning purposes. The fundamentals of learning still do not change with mobile learning (Razak, 2004). M-learning does not replace traditional learning but is just another way of learning using new technology. A study carried out by Psychological Society in the year 2017 has identified that the fear of losing a smartphone is compared to that of the fear of a terrorist attack. The dependence on mobile application and other functions has led to a level of dependence and personal intimacy new in the human-machine relationship (Moreno & Traxler, 2016). It has been shown that mobile phone radiation does cause increases in blood pressure (Braune et al., 1998).



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The learners have a fear of using mobile devices for long hours since there is information that using mobile devices for long hours would bring bad effect on the brain functions such as brain tumours and other brain or oral diseases.

B. Pedagogical Limitations

In the context of mobile learning, learners take full responsibility for their learning activities. This disrupts teacher interventions in the process of learning. Learners lack support and guidance in the process of learning. Most organizations like to keep track of who is doing what to whom and when using some form of learning management system (LMS). Another major pedagogic limitation in M-learning courses is whether based on mobile phones or other mobile devices, it is hard to administer a test. Without on-site supervision, course organizers have no reason to trust that the answers sent from a mobile phone are being sent personally by the actual registered mobile phone holder and m-learner (Shudong & Higgins, 2006). In an M-learning environment, the lack of a clear pedagogical framework might lead to lack of interest and reluctance in the learners. Also, in M-learning, a learning atmosphere is absent. According to Rovai (2002), 20%-30% of the learners who enrol courses through distance learning mode such as M-learning do not finish them. Matin (2017) throws light on the explosion of mobile apps in a pedagogical concept. There are various apps available, in which the teacher and the learner should scrutinize the suitable one for their use. It consumes much time. Another major challenge is the deviation while using the apps. Even in this technologically advanced world, everyone can't have a mobile device for them. The teachers have to design the course so that no one should feel left out inside and outside the classroom.

C. Technical Limitations

Internet data plays a crucial role in deciding the quality of learning using mobile devices. For example, 30GB on an average seems to be huge, but it may not be enough to accommodate high definition (HD) audio and video files. HD audio and video files can be stored in mobile phone memory, but it affects the system functionality and occupies more space. Moreover, users might face slow processing speed and sometime the data might be corrupted. India is a developing country and it has to go a long way in terms of growth in the field of communication technology. Matin (2017) states that the problems associated with Wi-Fi or mobile data connection and the speed of the mobile network depend upon the speed of the internet. The speed of the mobile network depends upon the data provider and the area where the people reside. However, developed countries are accelerating in the field of technology-enabled learning with the advent of new technologies and advancement from 4G to 5G network connection. Further, everyone can't hold particular software to run the files needed for learning purposes. In the context of learning using mobile devices, studies suggest that learners, under novelty effect, shift their interest from learning to the new technology and the gadgets used for learning (Ushioda, 2013; Botero, Quester and Zhu, 2018). They further point out that the number of balanced users is very low compared to students who shift their interest and motivation.

D. Screen Size

As smartphones are the commonly used devices in the process of MALL, screen size comparatively is identified as a major issue that hinders easy-learning. Table 1 shows the screen size of the mobile devices commonly used by the learner (Maniar et al, 2008; Raptisa D et al, 2013).

Table-I: Screen Size of the commonly used Mobile Devices

S.No	Device	Screen size
1	Mobile phone	1.65 to 2.75 inches
2	Smartphone	5.5 to 6.2 inches
3	Laptop	17 inches
4	Tablets	7 to 10.1 inches

In any interactive communication device, the screen size plays an important role in terms of modality. Watching a short video or a movie on the smartphone screen may not cause any disturbance that might hamper the effectiveness of the process as the purpose is entertainment. However, this may not be the case when the usability is focused on learning or knowledge acquisition. Raptis, D et al (2013) have conducted a study on the effectiveness of using mobile phone or smartphone concerning the screen size for learning purposes. They have identified a significant effect of the screen size on the users. According to their study, users who interact with larger than 4.3in screens are more efficient during information-seeking tasks. In a similar study, Jones et al (2003) have reported that screen size impacts the speed of internet searching tasks. Honarzad (2019) states that the rapid evolution of technology makes the existing devices outdated very soon and the learners and teachers go for new devices to access the latest content. Size of the screen and resolution of the screen of the mobile devices are some of the major technical limitations (Salameh, O. 2011). It is a fact that producers have improved the quality of the mobile devices in terms of screen size and resolution to a large extent, but the improved size may not be comfortable for learning purposes. It may be adequate for viewing messages and video files, but serious learning may not be possible. According to Bryan (2004), the existing screen size of the mobile devices might be all right for viewing text for a short time, but usually not for longer than two to three minutes. If learners exceed this time limit, their eyes will become tired. Another major limitation of using a mobile phone in the learning process is its data storage space. Moreover, apart from availability, affordability becomes a problem. In developing countries, to afford a mobile device with uninterrupted connectivity may not be available to every learner who understands the modality, and, despite the cost, the new communication and connectivity facilities offered by smartphones have made them a 'must-have' products. (Godwin-Jones, 2017).

V. ADVANTAGES OF IMPLEMENTING MALL

Tayebh states as a contradictory approach to classroom learning atmosphere, Mobile Assisted Language Learning (MALL) assists students to learn irrespective of barriers associated with time, place and situation.



Advantages of MALL are mainly marked for its synchronous and asynchronous mode of learning. Despite the above-discussed limitations in MALL, Thornton and Houser (2005) show that mobile devices can indeed be effective tools for delivering language learning materials to the students. As mobile technologies provide many advantages: flexibility, low cost, small size and user-friendliness, researchers are exploring how to use mobile technology to support language teaching-learning (Huang et al., 2012). Until 2019 or before the pandemic COVID 19 attack, the use of mobile devices for learning was very limited. Dushtestani, (2016) and Nino (2015) have identified that, based on the literature, the usage of MALL outside the classroom for learning was very minimum. This scenario has completely changed during the pandemic as the schools and colleges have sifted to a mobile learning platform for the teaching, learning and assessment procedures.

A. Self-Directed Learning (SDL)

SDL is one of the basic human tendencies and competencies where a person participates in activities generated by himself/herself, through which he/she learns (Hiemstra, 1994). Teachers and students may use SDL in the process of organizing the teaching-learning process (Fisher et al., 2001). It has a positive impact on the process as it motivates both teachers and students; also, enables cognitive learning experience (Garrison, 1997). Figure 6 shows the different dimensions of SDL – self-management, self-monitoring and motivation.

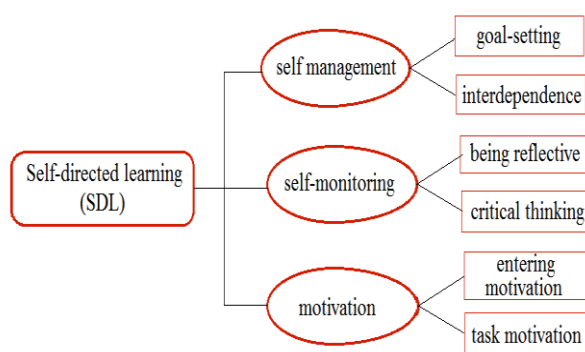


Figure-VI: Dimensions of Self-directed learning (SDL)

According to Garrison (1997), to be reflective and to be able to think critically form the metacognitive aspects of self-monitoring dimension of SDL, MALL is an effective platform. Moreover, these two aspects are considered important variables in MALL. Another aspect that plays an undeniable role in MALL is motivation. Studies have proved that motivation, as a learner variable, could be quantified (Patrick, Skinner, and Connell, 1993). They have found that perceived control strongly predicted students' persistence, attention, effort, and participation. Recent studies on SDL integrates it as a specific characteristic and a learning process where several psychological, educational and environmental factors should be considered (Stockwell, 2008). According to Lai (2013), factors related to the attitude of the learners such as the beliefs about the value of and personal consideration toward technology use for performance also play an important part in determining technology use in the process of learning.

VI. CONCLUSION

Thus, this paper deals with the various limitations associated with the implementation of Mobile Assisted Language Learning from the psychological, pedagogical and technical perspective. In short, Indians still believe in the traditional teaching method which resists them from engaging in technology-enabled learning. We are lacking behind in most of the technological advancement as that of the foreign countries. Technological limitations as that of small screen size, small memory and the lack of common standards resist people in using mobile phones for language learning purpose. The phone makers and telecommunication companies should take an effective step to overcome such technological and psychological limitations. Otherwise, mobile learning will not be possible in practical life. These limitations should be seriously considered by the educationists and they should find an alternate resource for overcoming the difficulties. Teachers have to design different learning materials specifically for mobile platforms.

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