Mobile language learning apps during COVID-19 pandemic: A literature review based study

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A B S T R A C T

The entire world has come under the influence of a novel pandemic crisis, COVID-19, which has affected the human lives at a large scale. Educational setup and the whole realm of learning also have also suffered a lot worldwide and a major change in the mode of learning has been seen in response to the major crisis. Virtual learning has come in power, which takes into account the crucial role of language-learning mobile applications. Language learning mobile applications has served a large population in the current crisis with their learning benefits. A wide range of language learning mobile apps is available in the app stores, which are being downloaded by incalculable number of language learning aspirants on daily basis. These apps have a remarkably positive influence on the foreign language learners regarding the ease of providing a self-paced learning opportunity along with uplifting the motivational level of language learners. The role of mobile language learning apps and their potential advantageous impact has been discussed, which especially proves significant during the COVID-19 crisis where life is going through various restrictive measures. No matter, the importance of face-to-face language instructions and practice involving direct feedback cannot be overlooked but the virtual or distant language learning via mobile apps bring remarkable progress among the foreign language learners, especially during the adverse crisis, COVID-19, the phenomenon of learning foreign languages via mobile apps is absolutely worthwhile.

INTRODUCTION

During the covid-19 pandemic where the life has stuck due to the closure of educational institutes and ceased educational activities, learning any foreign/second language is an appreciated learning activity, which can be easily learnt via language learning applications on mobile devices simply sitting at homes. Chen (2016), asserted that technology has influenced the routinely lives of humans allocating a paramount part to language learning via technology.

Wang et al. regarded mobile learning an extremely advantage-packed mode of learning for its allowing the learners to gain autonomy over their learning in a more relaxed, customized and interactive way. Want et al. further claimed that learners by using mobile devices can make the process of their learning happen regardless of time and place using any mobile device. We live in a world where mobile devices like smart phones, tablets, laptops etc. have become a necessary item for everyone and majority of people possess their own mobile devices. M-learning has wide and vast benefits having numerous advantages in learning as well. Taking into account the perspective of learning, Cheung (2010), described three core traits of m-learning as; involvement of user-friendly technological devices, taking into account learners' requirement of a relaxed and flexibly held learning and the paramount factor of pedagogy. Kukulska-Hulme (2010) and Dela Fuente (2021), supports the point further by bringing into light the function of mobile devices as personalized tools which can be used in a dual manner for learning as well as maintain the flow of communication.

Where the currently prevailed pandemic situation has brought unexpected restrictive measures for the social movement, there at the same time it has brought various learn some opportunities for the people, which includes online learning of foreign/second languages while staying at homes. Atmojo and Nugroho(2020), considering this fact pinpointed that the novel pandemic situation has caused the process of language learning to take place in an unplanned and unforeseen manner. According to Presti (2020), the practice of Language teaching has been through a massive shift because of the 2020 pandemic and has transformed from formal setting to virtual world. Sun (2014), informed that very less research has been carried out in the context of learning languages online. Fernando (2017), advocated that the mushrooming availability of mobile devices has introduced an outgrowing number of mobile applications, a large number of which include language-learning apps. These apps have acknowledged dominance regarding effective language learning practice. Nevertheless, less literature has been produced in the context of effectiveness and assessment of these language-learning applications.

Literature review

Corona virus (Covid-19), is not anew anymore in the current social set up of the whole world as it has affected a big number of human population. Rothan and Byrareddy (2020), informed that SARS-COV2 is responsible for causing this lethal virus gaining the ultimate attention and has become the greatest health concern of the age. Rothan and Byrareddy (2020), further called this virus to have a "zoonotic" origin (Rothan & Byrareddy, 2020), as people caught this virus from the wet animal market in Wuhan, resulting into complete isolation and restricting the personal contact. Huang et al. (2020), identified that this newly originated virus, was discovered in the sea food market of Wuhan city, China, by the end of the year 2019 and seeing the severity of the virus, in March 2020, World Health Organization (WHO) labelled it as a pandemic (WHO, 2020). Morbidity and Mortality Weekly Report mentioned that the novel virus named coronavirus aka COVID-19 affected almost 170,000 people in almost one hundred and fifty countries across the globe, which made WHO calling it a pandemic on 11th March 2020 (MMWR, 2020).

The 2020 pandemic has brought a major alteration in the education system of the entire world. Azorín (2020), considering the resulting effects of the severe virus, indicated that the globally acknowledged crisis COVID-19 has provided us all a chance to revisit the priorities of our educational set up, which along with having an adaptive response, also reveals the supposedly upcoming transformation regarding a hybrid schooling system (Azorín, 2020); that presents a two-sided picture claiming education to either return to normal or take a new

direction. Schmidt and Ramot (2020), pointed out that the severity of COVID-19 called for maintaining social distance and implemented online teaching at all levels of education comprising of 2.3 million students with 320,000 students enrolled in all higher education institutes, the situation which posed closely alike challenges for all educational institutions demanding them to alter their teaching approach. In this regard, Basilaia (2020), proposed that in response to the global crisis, COVID-19, different countries came up with different remedial strategies in order to carry on with their educational activities, which include the commencement of online libraries, television broadcasting, video based lectures and launch of online educational channels in almost ninety-six countries across the globe. Basilaia (2020), further spotlighted that various alternative strategies involving online learning-teaching programs have come into notice during the COVID crisis. Brazendale, et al. (2017), asserted that according to certain studies the closing of schools and long stays at homes because of COVID, influenced negatively on the children's physical and mental state. Brooks et al. (2020), continuing this stance stated that the quarantine has found to have an extensive and a long-running psychological impact on students. In these home-bound days, getting engaged in some fun-oriented learning activities can be the best solution to minimize the negative influences, which can be catered through online learning platforms.

ÖZER (2020), identified that the global crisis, COVID-19, affecting a substantially large amount of students and educators world-wide, introduced the countries with a novel challenge which made the educational administrators and managers to take initiatives to cope with the needs of the students by using various online aids and virtually effective supports. Adedoyin and Soykan (2020), claimed that various activities along with education have ceased due to the 2020 pandemic giving rise to a crisis-response migration of universities with an online or distant learning. Sheth et al. (2020), claimed that the newly emerged virus COVID-19 has brought noticeable changes in several domains of human lives among which one significantly acknowledged reorientation is the phenomenon of acquiring and diffusing knowledge. Wargadinata et al. (2020), proposed that many educational institutions have under gone changes in their mode of teaching and learning which points out to a massive shift towards the use of internet giving meaning to online teaching. Kukulska-Hulme (2006), indicates that one of the core areas which take advantage of this technological development is the area of language learning as mobile learning provides the learners the edge of portability and no restriction of time and place. Nacir et al. (2020), proposed that m-learning makes learning completely a flexible process as it is free of any kind of time and place-oriented constraints thus, mobile learning does not hamper learning even while COVID-19 wave. Moreover, according to Biswas, Roy and Roy (2020), because of the severity of the novel coronavirus, where almost two hundred and thirteen countries all over the world have come under an educational strain; there mobile learning has proven quite fruitful in COVID-19 times, as it has contributed to fill the study-oriented gap. Blake (2011), identified that online language learning is a terminology that can normally occur either in "web-facilitated" formal setting, "hybrid" or a completely indirect/virtual class, the learning modes which have not only proved significant for the language instructors but also inclined those associated with the area of computer assisted language learning (CALL). Gao and Zhang (2020), denoted that the unexpected wave of the novel coronavirus shifted the conventionally prevailed mode of teaching to online which also involve teaching various languages. Fageeh and Mekheimer (2013), shedding light on the pros of online learning notified that this mode of learning presents a wide range of advantages, which allows the English language students to take part in various individual and group tasks in order to excel the language. Bailey described that online teaching methodologies to comprise of hybrid, completely online and flipped learning normally involved in the field of TESOL, Teaching of English as a Second Language moreover, technology associated with the process of language learning also hold significant in bringing a revolutionary change in the field of TESOL. According to Warschauer and Healey (1998), computer assisted language learning (CALL) is known to be used back since 1960s and among innumerable strikingly positive points of online teaching, one noteworthy benefit is language learning.

Morat, Shaari and Abidin (2016), further taking into account online learning stated that conducting online learning sessions comprising of fun-oriented interactive activities prove to be a healthy source of increasing the motivation level of the language learners. Kukulska-Hulme (2015), speaking of the language learning process indicated that it is positively excelled with an informal learning in which the mobile devices have played a significant part by introducing education based mobile applications. The present age has made the mobile phones a

common hand-held device in almost every home and is frequently used by all age groups. Kukulska-Hulme (2015), further continued highlighting the efficacy of smart phone features, which have the ultimate potential to not only contribute in the improvement of language learning but also incorporate a Self-Access Language Learning (SALL), a learning approach stressing on sell management on the part of language learner (Gardner & Miller, 1999).
Kalati (2013), stated that technology has taken a prominent position in the modern lives of both students and instructors by altering the ways of learning and teaching, which includes Web Assisted Language Learning (WALL), Technology-enhanced Language Learning (TELL), Computer Assisted Language Learning (CALL) and Mobile Assisted Language Learning (MALL) in the very field among which MALL is dominantly important. Kalati (2013), rendered Mobile learning to be going through the phase of an accelerated development, as mobile devices have become personal possession, which is also argued by Stockwell (2007), who advocates for the preference of mobile phones over computers in the process of language learning. Karademir (2019), talking about the beneficial realm of digital or virtual earning asserted that the learning content available digitally makes the foreign language learning process far more lively and motivational. Cheon et al. (2012), identified three types of modes of learning using mobile devices namely, individualized learning, situated learning and collaborative learning (Cheon et al., 2012). Individualized learning enables the learners to practice at their individual pace and customized learning objectives, situated learning speaks of the usage of mobile devices by learning within an authentic context, and collaborative learning , helps the learners to maintain an interaction with peers (Cheon et al., 2012).

Among other language learning apps, Google Assistant also has shown positive impact on the language learners as it assists the searcher or learner with translational services, which help them get a better understanding of the content. Jan Chen, Yu Yang and Wei Lai (2020), supporting their argument in the favor of Google assistant (GA), called it a highly practical and useful learning aid in terms of English as a foreign language (EFL), as the pronunciation and utterance responded by GA in reaction to the commands given by the language learners are easily understandable, yet the learners finding themselves at a low-level of learning might go through a bit trouble. Godwin-Jones (2011), mentioning the usefulness of computing mobile devices in terms of portability and AV support, pointed out that they have a wide range of scope in learning various languages and spotlighted that the mobile devices provide the language learners a grand list of language learning apps. Kim & Kwon (2012), further credited the smart phones for bringing uncountable mobile language learning applications for the L2 language learners. A sufficiently informative list of learning L2 has been produced by Claire Siskin, which can be proved beneficial for learning L2 like French, Japanese and English as a second language. Gao and Zhang (2020), mentioned that the Chinese University language instructors, brought the fact under light that there came a disturbance in their planning of teaching along with a distorted execution of ICT-based knowledge and skills, which challenged their teaching practices. MacIntyre (2020), put forward that the mega crisis the world has encountered in the form of the novel 2020 pandemic, a lot of countries in the world, as per the context of education, have responded to it by bringing changes in the traditionally conducted face-to-face classroom learning phase and showing an abrupt shift towards the online or virtual teaching. Thus online or remote learning has become a quite a normal mode of learning during COVID-19, which has been made possible at a larger extent due to the frequent availability of mobile devices and easy access to internet. Hence, the role of functionally practical mobile applications in this period of ceased activities is quite magnifying.

Mobile devices and applications

Stoyanov (2015), talking about the incalculable number of mobile applications available in the app stores, sheds light on the fact that it is not an easy job for the app searcher to opt the right application in the first attempt, moreover very little information is provided on the quality of the apps. Harrison, Flood and Duce (2013), taking into account the current techno-friendly set up, described that the practicality of mobile devices has grown so vastly that it has enabled the users manage most of their tasks on the easy-to-carry mobile devices but at the same time, they also highlight few issues associated with mobile devices, which include the size of screens, availability of internet, battery storage etc.

Baharuddin, Singh and Razali (2013), called the mobile phones to be the most welcomed necessity in the lives of people from their everyday stuff to business matters as statically, the number of mobile connections across the world has reached to almost 3.3 billion and is rising further with each day. Where mobile devices have become so essential in the daily dealings, they also have certain limitations, which at some points affect their convenient utility factor. Islam and Mazumder (2010), throwing light on the moden world of information technology and increased communication, propounded that usage of computers and computer-based applications have become an addiction but the mobile apps, a relatively novel yet swiftly overgrowing idea is showing rather more impactful development globally. According to Islam and Mazumder (2010), these mobile apps have facilitated the developed countries in the world to upsurge themselves. Well described by Wesson et al. (2010) and Ali et al. (2012), mobile devices pose some hindrances in the usability including "information overload" and "screen clutter", (Wesson et al., 2010; Ali et al., 2012).

Foreign/second language learning

All over the world people are indulged in excelling a Foreign or second language for various purposes. Language is the basic tool to connect to a wider community thus language learning never loses its purpose. Stewart (2005), informed the results of research proposing that a foreign language learnt in an early elementary age helps to refine the cognitive capabilities and bring positive effects on achievement levels in other areas as well. While learning a foreign or a second language motivation holds utmost importance in uplifting the learners' morale. Dornyei (2009), pinpointed that both the language instructors and the researchers of the particular field have affirmed that the speed and quality of foreign or second language learning has major influence of motivation, moreover motivation also tends to be a weight factor in enabling the learners striving with L2 to store the learning for a longer period of time.

Role of mobile apps in learning l2

In the contemporary tech-savvy world, language learners now frequently get the support of mobile applications aka mobile apps which they can easily download on their mobile devices in order to make the L2 learning process free of any restrictions regarding time and place. Moreover, it also provides the ease of self-oriented study format. Holec (1979), described that an independently learning individual takes complete responsibility of his progress himself hence he manages his pace while moving from one nee to the next step by step including learning of grammar, syntax, pronunciation etc. Steel (2015), carried out a research and analyzed that students rated mobile apps to be on the top five technologies used for learning languages. Bradely, Lindstrom and Hashemi (2017), Wrigglesworth (2019), denoted the fact that among the plenty of work conducted on the efficacy of mobile devices in relation to language learning, it has proved that mobile devices really have beneficial outcomes in language learning indicating a constructively positive viewpoint by both the language instructors and learners. Kim et al. (2013) and Wrigglesworth (2019), continuing the same stance asserted that the language learners are keenly engaged with the mobile based activities and regard them to be highly fruitful. Andujar (2019), have claimed the overall usefulness of mobile learning from all aspects whereas various issues also have been reported in this context regarding the small sizes of mobile screens along with the small-sized keypad, which makes it a bit uneasy to handle for some people in some cases. Liu et al. (2015), mentioned that some mobile applications do not function appropriately as according to Kim et al. (2013), certain learning aids are not supposed to be effectual in terms of pedagogy. Chang and Hsu, (2011), Egbert et al. (2011), Hoven and Palalas (2011) & Stockwell (2010), brought into notice that various researches have proved beneficial outcomes of mobile devices like smart phones, tabs and computers in helping the learners make noticeable advancement in learning foreign or second languages.

Foreign/second language learning mobile apss

Kukulska-Hulme, Lee, and Norris (2017), put forward that out of the several forms of mobile-based technological advanced features used by the students beyond the classroom setting, certain language learning

mobile apps including busuu, Duolingo, Rosetta Stone and Voxy have been enlisted as the most well-known apps showing the interest of language learners towards them from almost fifteen years. Godwin-Jones (2011), stated that among the countless mobile apps offered in the app market, a big and immeasurably large portion is allocated to the language learning apps. Loewen, Isbell and Sporn (2020), talking about the language learning mentioned that millions and millions of learners all across the entire world are making use of the sought-after language apps like Duolingo, Bussu, babble and Rosetta Stone. Loewen, Isbell and Sporn (2020), rendered Duolingo to be the world's one of the most frequently used mobile app for language-learning, which has around three hundred million users with twenty-three million Spanish users enrolled in the course for English language. Rosell-Aguilar (2018), mentioned sixty million busuu users and several other million users of Babbel. As per the reporting of American Councils for International Education (2017), Goldberg, Looney, and Lusin (2015), the number of foreign language learners learning a foreign language at primary levels via tertiary education, is estimated as twelve million.
Among the infinite language-learning mobile applications, few top rated apps have been touched as below.
Duolingo.

According to Chen (2017), Duolingo, a free language learning app, with dictionary functioning, offers a vast variety of foreign or second languages among which the learners can opt any language in accordance with their need or interest, which include languages like Dutch, English, Romanian, Portuguese, Russian, Spanish, Polish, French, Arabic, German, Korean, Greek, Chinese, Hungarian, Turkish, Italian, Czech, Japanese, Hindi, Ukrainian, Vietnamese, Indonesian, and Thai. For the new users, Duolingo offers well-structured writing sessions while for the users of advanced level, it provides opportunity for oral practices. Gafni, Achituv, and Rachmani (2017), mentioned that Duolingo promotes language learning by bringing activities involving writing words after the display of images and translation of sentences from native language to the foreign and from foreign to native. Thus, the target language is practiced with consistency and repetition. Garcia (2013), praising the language-learning app Duolingo asserted that it can really teach thelearners the target language through translation. The cofounder and CEO of the language-learning app Duolingo, Luis von Ahn, highlighted that no doubt, the efficacy of Google Translation is getting better with time Ahn (2013), but he also mentioned that sometimes the translated version is not well understandable and lacks precision. Krashen (2014), claimed Duolingo to be a language learning application, which better serves language practice with a self-regulatory study mode presenting a series of activities comprising of the translation-based content enabling the language learners to undergo a deliberate learning along with some intuitively acquired language skills by exposing the learners to readable and audible content.
Busuu

Musa, Nushi and Jenabzadeh (2016), talking about the language learning app busuu, highlighted that it enables the language learners to take the course in any language from the variety of language options, which include English, Spanish, German, Japanese, Russian, Turkish, Arabic etc allowing the learners to get a good exposure with the basic language skills (i.e listening, speaking, reading and writing) along with vocabulary and grammar. Rosell-Anguilar (2018), sharing the findings of his research concluded that the a remarkable number of language learners subjected to Busuu, found it a useful language learning mobile app in getting better at vocabulary development and other language areas. Ketyi (2013), Indicated that one of the major advantages of Busuu is that it is compatible with both computers and other mobile devices. Vallejos (2018), mentioned that the app Busuu, used by seventy million language learners across the world, is categorized as the largest language-learning network in the world with a facility of language courses in twelve languages on both web and mobile, which allow the learners to maintain a self-regulation and an individualized learning speed. Busuu provides the learners a well-suited classification of learning levels like A1, A2, B1 and B2, allowing the learners to choose their right level and then carrying out their customized language learning study plan.

Google assistant

Tai and Chen (2020), proposed "Willingness to communicate (WTC)" (Tai & Chen, 2020), to be a pre-eminent element a fruitful practice and learning of foreign/second language and for developing such a successful WTC among the foreign language learners, the contribution of artificial intelligence (AI) tools like Automatic

Speech Recognition technology, Google Assistant prove to be highly significant. The research carried out by Tai and Chen (2020), indicated the effective support provided by the Google Assistant in the form of games and vocal interaction with chatbots, which facilitated the learners with maximum activity by boosting the WTC among the foreign language learners thus, improving the confidence to interact and minimizing the anxiousness to speak. Gartner (2015), declared that only mobile phones and tablets have not contributed as paramount technological aid in our everyday life but speech recognition and translation referred as machine learning also is playing a prominently significant role to bring beneficiary outcomes for the mobile users.

FINDINGS AND CONCLUSION

Any age group from any area of interest can never deny the benefits of mobile apps and mobile devices as learning tools. In the world where everything has shrunk into the small hand-held mobile devices, foreign language learning via mobile apps on such devices is out-and-out a meaningfully wise approach. Keeping in consideration the COVID-19 crisis, such language learning apps provide a high-end opportunity to the students interested in learning foreign languages using latest mobile apps empowered all advanced technological features in synch. With the present-day requirements. Gafni, Achituv, and Rachmani (2017), by suggesting the feature of gamification to be made a part of these apps, proved the language learning mobile apps as highly useful learning tools, as according to them, games help the language learners to practice a particular task in the form of repetition, which might seem boring otherwise, but creates a wave of excitement when presented as a game. Berns et al. (2015), clearly stated that the element of consistent practice is an essential ingredient of attaining proficiency in language but in learning a language in a conventional classroom which is usually occupied with a large number of learners with whom a fully productive and regular practicing sessions, it gets missed out. Thus, Berns et al. (2015), propose that mobile apps can be a highly recommendable substitute to learn languages. Analyzing the efficacy of mobile learning, Wu et al. informed that most of the researches proved language learning through mobile apps, a positive learning fashion.

Kacetl and Klímová (2019), shed light on the opportunistic side of mobile devices in making mobile learning hugely beneficial in language learning process yet on contrary they also pointed out that these language learning mobile applications are not necessarily developed by the experts of language, which leaves a gap for the students to make the right choice of app for foreign/second language learning. According to Kacetl and Klímová (2019), mobile learning, a highly commendable learning opportunity and a progressive leaning aid, is going through a popularity boost with time; especially when it comes to language learning, it has a remarkable contribution in terms of raising the morale and motivation of the language learners, empowering them with an autonomous approach and expanding the boundaries of their confidence. Vesselinov and Grego (2016), asserted that the number of language learning mobile apps available on the app stores is uncountable and each of the available apps has its own persuasively claiming statement about the effectiveness and quick results for learning foreign languages but at the same time, choosing any app just on the base of its claim is never a smart and effective choice. A large amount of researches has shown mobile apps to have a fruitful impact on language learning.

According to the viewpoint of Miller (2020) & Richards (2020), during the period where the entire world is facing a lethal wave of COVID-19, the shift from traditional learning phase to digital transformation has brought a seriousness in the issue for the language educators regarding the effective delivery of online instructions. Loewen, Isbell and Sporn (2020), making a link with this issue, indicated that the mobile apps for learning foreign languages provide maximum support to the language learners to reach the desired content without any confinement of factors like time and place. Loewen, Isbell and Sporn (2020), also mentioned that in order to learn a language the factor, which counts as the most supreme is motivation and consistency. BLEy-VROMAN (1990), threw light on the same point and opined that the most evident feature in language learners' giving up on learning is the uncertainty and insecurity of successful completion and mastery of the language being learnt. The lack of general guaranteed success is the most striking characteristic of adult foreign language learning. According to Rosell-Aguilar (2018), for learning the foreign languages, a good number of learners make use of these language-learning apps as major language learning support while on the other hand, the other lot of learners merely use such apps as only a basic

level support to get the necessary guidelines. Dashtestani (2016), García and Botero et al. (2019), concluded that even despite of positive learning behavior demonstrated by the learners, merely accessing and downloading language learning apps is neither a proven strategy nor a guaranteed formula of successful language learning.

RECCOMENDATION

Learning a foreign language via mobile apps is not a matter of a carefree attitude. It demands the learners to follow proper learning criteria so that the purpose could be fulfilled to the highest. Foreign language learning through mobile devices does not keep itself confined to the devices or the apps merely but it actually concerns few other parameters beyond the device. Based upon the above-mentioned literature about the usage of mobile apps during the COVID-19 pandemic for learning foreign languages, few recommendations have been made below.

As the selection of the right app is a matter of an intentionally keen observation looking for all opportunities and obstacles, which are supposed to be encountered while learning, hence it is advised to the language aspirants spend a good deal of time in a properly planned surfing taking into account the element of ultimate advantage.

1. Identify your learning objective first in order to make the searching procedure more fruitful rather than downloading any random app helping you just generally. Better, keep in mind factors like you're learning level and the specific language skills you are intending to excel at.
2. Consistency is the characteristic feature of successful learning. While learning a foreign language, consistency holds the prime importance that cannot be denied anyway. Thus, it is recommended to the foreign language learners to maintain a genuine level of consistency throughout the phenomenon of learning the language in order to maximize the learning outcome.
3. Allocate a properly planned slot in your day which you feel the most convenient in terms of peace of mind and maximum assimilation so that you can get the most out of your efforts.
4. Paying heed to these recommendations might help you avail the opportunity of learning any foreign language in the home-stricken period of COVID-19 pandemic.

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