

Impact of Mobile Assisted Language Learning on the Young ESL Learners' Vocabulary in Pakistan

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ABSTRACT

Connectedness through mobile phones has revolutionized the modern academic arena. The inclusion of 3G, 4G and Long Term Evolution (LTE) has made mobile phones work like mini computers. The use of mobile phones is also vivid in educational contexts. And this phenomenon is called a MALL (Mobile Assisted Language Learning). The present study explores the effect of MALL on the vocabulary of young ESL learners. To accomplish the objectives of the current investigation, the quantitative research design was utilized as the data were numeric. The population of the study was taken from Lahore where the sample size was 60. These 60 school children were equally disseminated into two different sets (controlled and experimental) of 30 each. All of them were grade III students studying in various English medium institutes of Lahore. The samples were selected through random sampling method. Initially, a pretest regarding vocabulary assessment of both the groups was taken. After that, the controlled group learners were taught through conventional method whereas the learners in the experimental group learnt vocabulary words through MALL in a learner-centred ambience for two weeks. After the treatment period was over, a post-test was conducted and results were gathered and evaluated. The data collected from results reflected the marked difference in the (standard deviation, 2.24137), (mean, 9.91) and the (standard error mean, 0.22413) amongst the two groups. The results revealed eminent variation in experimental group's performance as compared to the controlled group. The outcomes revealed that vocabulary teaching could be transformed using MALL in Pakistani ESL learning situations.

Keywords: *mobile assisted language learning, Pakistani classrooms, young esl learners, teachers, vocabulary*

Introduction

The recent change of the 21st century is the inclusion of technology in the lives of people. Taylor (2003) is of the view that this overall innovative scenario in the world of technology has affected all segments and changed the overall picture of economy, culture and politics of any country. Now, distances are short because everything is just a click away from people living in different continents (Castells, 1996). The term technology is now included in every field. In

the field of education, technology has affected the pedagogy of teachers. Especially, if one talks about the acquisition of English as a language and teaching English, the use and presence of technology are unbeatable. Xodabande (2017) says that a clear change can be viewed from being teacher-focused to learner-focused because of technology inclusion in the classrooms. Mobile technologies range from mobile phones, I pads, Tablets and pocket PCs. In education, however, the ways of learning

and teaching have been affected deeply by the inclusion of mobile phone (Bicen & Cavus, 2011). Last 20 years have seen rapid development in this field. The addition of a camera, GPS, MMS system, the voice recording chip, sensor and many other internally built applications have made the mobile phone a hallmark in the society. On the other side, if we talk about online applications like Viber, WhatsApp IMO, and other connectivity software, we can see that these applications have facilitated people all around the world. The overall combination of built-in and downloaded software has made mobile phone an unbelievable package which has something very useful for everyone (Ducate & Lomicka, 2013).

MALL

MALL(Mobile assisted learning) started to influence the western world almost 30 years ago and now it has become a regular feature in the western classrooms. This is a new type of model related to learning which permits the learners and teachers to send and receive learning material, information and instructions through mobile phones. This is made possible by the use of different offline and online mobile applications (Lan & Sie , 2010). Guy (2009) is of the view that MALL can be considered as E-learning too. The positive reception MALL got amongst teachers and learners is because of the fact that it is highly advantageous (Demouy & Kukulska-Hulme, 2010). Especially, in teacher-centered ELT classroom, teacher was the dominant figure and learners were passive. Teacher's focus was on delivering lectures and explaining concepts to the learners. On the other hand, there were a lot

of queries which remained unanswered because they were never asked by the learners thinking that his/her question or query will disturb the flow of lecture and thus overall ambiance will be disturbed (Chinnery, 2006). The fear of being wrong or a fear of hilarious comment from teacher or peers is an old story now.

English Language and Pakistan

English language has a pre-dominant role in Pakistani context owing to different reasons. Proficiency in English language is considered as a yardstick for better grades and better job prospects in Pakistani society (Haidar& Fang, 2019). English language has also become a status symbol, as it is considered that a person who speaks good English belongs to a better class. If we talk about teaching English in classrooms especially in class 1, 2 and 3, we can vividly see that conventional methods still dominate and students are never equipped with learning and speaking English effectively (Rahman, 2007). In the early days of school,traditional teaching methods fail to develop interest of the young ESL learners to gain efficiency of English language. On the part of students, the focus is on rote learning and concept- based learning is never supported. The testing system adds nails to the coffin, as it is also there to test the memory of the students rather intelligence (Ahmad &Rao, 2013). Viewing this entire situation, there is a strong need for the induction of technology in Pakistani education system especially in learning English as a language.

MALL in Pakistan

The inclusion of gadgets and machines in classroom might be a regular feature in the

western world currently but it is a dream for Pakistani classroom. Here, the technology in classrooms is only confined to multimedia, OHP, and teaching through computer connected with multimedia (Ali, Khawaja & Bhatti, 2019). Mobile phones are an obsession in Pakistan. No one can deny its presence, as it is a member of family in every class. It is also an important aspect for kids, mobile phone is a daily activity and full source of entertainment (Smith & Crane, 2019), and the young people are more tech savvy than old ones. Viewing the popularity of mobile phones it is a wonderful notion to involve mobile phones for educational purposes. There is no practical concept, proper training and implication of mobile phone for learning methods i.e. MALL for as learners, teachers and institutions.

Statement of the Problem

Learning vocabulary is a strenuous task. Especially in ESL learning context, it has always been a problem to learn new words. Conventional methods are monotonous and they are no longer impactful in ESL setting. Therefore, the learners are facing problems in learning new words. Resultantly, they are unable to perform better. Moreover, there is no increase in their repertoire of vocabulary bank. There are some studies that focused upon learning vocabulary through MALL. However, there is dearth of research on efficacy of MALL and its utilization as a methodology and a learning tool for the improvement of vocabulary of learners. The conventional methods and system has been so regularly followed that instructors are stuck to old methodologies for teaching and they are nervous to use new tools and methods.

Significance of the Study

No one can deny the value of MALL as modern day method of learning in developed nations. Some studies have already proven the efficacy of MALL worldwide for vocabulary learning. Cavus and Ibrahim (2009) and Song and Fox (2005) researched on the impact of SMS on learners. Saran, Seferoglu and Cagiltay (2012) investigated the efficacy of MMS; Fageeh (2013) conducted a study on the impact of mobile applications. Alavinia and Qoitassi (2013) tested MALL operated vocabulary instruction techniques while Taj et al (2017) tried the blend of computer and mobile phone, and Ahmed, Armarego and Sudweeks (2017) developed and analyzed the MALL framework for the purpose of language learning and teaching. Likewise, in Pakistani classrooms, a different way of instruction is required to teach students effectively. This study will be helpful to find out the efficacy of MALL in local context and it will assist the future researchers and scholars to understand the importance of MALL in teaching-learning ambiance. This study is also significant in opening new avenues of learning and creating innovative methods by applying MALL.

Delimitation of Study

To make the research valid, the researchers delimited the study to Lahore (Provincial capital of, Punjab) only. In Lahore, the focus of the research was only private English medium schools and public sector schools were not chosen. From a number of private schools, only 6 schools were chosen using simple random sampling technique.

Research Question

What is the influence of MALL on vocabulary learning of the young Pakistani ESL learners?

Review of Literature

Different linguists and researchers have attempted to define MALL in their own ways. Generally, MALL can be considered as electronic learning dependent on technological devices like IPADs, IPODs, mobile phones, PDAs and other identical devices. These devices can influence language learning ambiances (Zuhri, 2016; Wagner et al., 2016; Lyddon, 2016) Bezircilioğlu, 2016; Kukulska-Hulme and Shield, 2008 stated that MALL refers to the use of laptop, palmtop or any device that can be held in hand. Since the inception of MALL, its growth has been incredible. The term now relates to the utilization of mobile phones for language learning purposes. As mobile phones of recent times are not only user -friendly but also offer multiple facilities to users. They offer a broader horizon for learning of the learners (Shadiey, Liu, & Hwang, 2020; Taskiran et al., 2018; Gabarre, et al., 2014). This rapid transformation from the lap to palm has given new ways of learning and teaching (Kukulska-Hulme, 2009). Now, technology has become an integral part of life (Jarvis & Achilleos, 2013). Palalas (2011) is of the view that many essential, interesting and diverse activities can be devised through mobile phones which include both individual and group tasks. Collaborative learning can also be promoted through MALL (Mompean & Fouz-González, 2016; Lim et al., 2013). Another important aspect of Mobile phones is that they can help in developing and producing learning material

in a multimodal way (Jarvis, 2015; Lan, Sung, & Chang, 2007; Mayer, 2003). Valk, Rashid, and Elder (2010) examined six different pilot projects in the developing countries, were of the view that mobile phones have the features to instruct and educate. Similarly, Lung-Hsiang Wong (2012) is of the view that in developing and creating friendly environment for multiple learning and teaching scenarios, mobile phones can influence confidently. Various related studies to MALL positivity reported regarding its usefulness and effectively (Lomicka & Lord, 2016; Alavinia & Qoitassi, 2013; Motallebzadeh & Ganjali, 2011; Yang, 2013). The chief component of mobile is its mobility which is liked by both learners and teachers. The teachers like it because it provides them with number of different options related to teaching in exciting ways (Oz, 2015; Chen, Hsieh, & Kinshuk, 2008). Further students are in favor of MALL because of its portability and mobility. It also helps them to learn individually or collaboratively both in and outside the class room (Kim, Park, & Baek, 2011; Deng & Shao, 2011; Tai, 2012; Wong & Looi, 2010; Anaraki, 2009). MALL tasks offer a lot of learning potential (Solmaz, 2018; Stockwell & Hubbard, 2013). Furthermore, it can also improve the acquisition of vocabulary (Yudhiantara & Nasir, 2017; Duman, Orhon & Gedik, 2015; H. Kim & Kwon, 2012). Apart from teaching various language skills through MALL, it is also noticeable that vocabulary teaching has gained much benefit from MALL. It can be said that mobile phone has created positive impact on vocabulary learning, as teaching vocabulary through

mobile trend is on the higher side these days (Stockwell, 2010; Zhang, Song & Burston, 2011). The importance of the vocabulary can be positioned on two aspects: to establish the structural knowledge and to facilitate the communication (Coady&Huckin, 1997). In ESL, acquiring vocabulary needs strenuous efforts compared to first language (L1). No one can deny the importance of vocabulary in academics especially in ESL. In development of language the structure, form, and meaning are important but the basic aspect is vocabulary (Orawiwatnakul, 2013). In vocabulary learning, the use of mobile phone is a common practice, as there are many features of mobile phones like SMS, MMS, IMO, VIBER, and other connectivity software. Many studies carried out by different researchers involve any one of the features of mobile phones to enhance vocabulary learning of the students. Cavus and Ibrahim (2009) developed an SMSsystem for sending and receiving messages related to English for technical purposes for their said learners. The outcomes reflected that learners' vocabulary was elevated using SMS based system. Song and Fox (2005) performed identical study in ESL setting to develop adult workers' vocabulary related to their field of work. The findings revealed that learners developed their vocabulary through MALL. Likewise, Liu and Wang (2015) explored vocabulary development by doing a study which was focused on teaching vocabulary through MMS to ESL learners. It was a four weeks program which comprised 103 students and the results indicated that the learners learnt more than any other way

through which they used to learn like paper based, book based material Fageeh (2013) found out the impact of mobile phone applications on vocabulary learning and motivation. The study employed quantitative experimental research design. Pre and post tests of both the experimental and control groups of learners were conducted. The treatment period of the experimental group was three weeks. The results of the post test revealed statistically significant difference in the performance of experimental group. Alavinia and Qoitassi (2013) examined the efficacy of MALL on the acquisition of vocabulary. The quantitative study focused on female learners and the results showed that MALL has impacted positively on learners and their vocabulary acquisition has improved immensely. Taj et.al (2017) investigated the influence of MALL on EFL learners' vocabulary at a public university. Through quasi-experimental study, the results were collected that indicated that MALL had a strong and positive impact on learners' acquisition of words and their vocabulary improved positively. However, there is adearth of research on efficacy of mobile phone and its applications on young ESL learners generally and Pakistani ESL learners particularly. An exploration by Ali, Gulzar and Anwar (2018) explored the influence of MALL on the grammatical learning of EFL learners. Having Grade 5 participants as population, the results were investigated through an experimental study. The outcomes reflected that those learners who studied through MALL improved immensely as compared to conventional learners. So there is a dire need to

investigate the influence of MALL on vocabulary based learning in local context.

Methodology

Out of three popular approaches namely quantitative research paradigm, qualitative research paradigm, and mixed method approach the first one was adopted to conduct the current study because of the nature of the data i.e. numeric form. The research design used for this specific study is experimental research design. In the experimental mode of design, the investigator wants to alter the situation, scenario and situation of the participants which can change the attitudes of the participants involved in the study. The participants of the research are assigned different variables of interest for measurement.

Research Model

The research model chosen for this study was the model constructed by Jolliet (2007). This model devised a teaching model for the learners to make their vocabulary active and rich. For that purpose, a Mobile based approach was initiated for second language learners. He took 50 basic vocabulary words from food transportation and other daily life items. The Learners utilized a link of the phone for the practice and recording of a pronunciation as well as to learn new vocabulary words through website, email or other applications through mobile. The results show remarkable difference in the learning of new vocabulary words for the students.

Population and Sample

The population for this specific study was grade III young ESL learners studying in different private sector schools of Lahore

(Punjab, Pakistan). As far as the samples of the study were concerned, it comprised 60 ESL students of Lahore studying at grade III. The sample was confined to Lahore to make the research reliable. The sample size is distributed equally to all the schools. Through random sampling 6 private sector schools were chosen. Out of the 6 schools 60 learners (10 students from each school) were selected to participate in the study again through random sampling.

Instrument

The instrument used for the current research was a test and it was conducted twice amongst same students of private sector schools of Lahore (Punjab, Pakistan). For this specific research study, two tests were made (pre and post-test) and conducted within the gap of 15 days. The pre-test and post-test had same material in them. The only change was the sequence of the questions which were different in both the tests. Viewing the population which was grade III, 50 basic vocabulary words were presented before the students in the Pre- test. Later tests were collected and then one group was taught under traditional method while the other was taught through MALL for 15 days. Later a post-test was conducted after 15 days.

Data Collection Procedure

The researchers in the 1st phase made a test having 50 basic vocabulary items. After pre-test, the participants of the study were taught either through traditional methods or with the help of mobile phones for 15 days. After that a post- test with the same vocabulary items consisting of MCQ based chose the correct option pattern was conducted. The pre and posttest were identical in pattern but

the only difference was the sequence of the words. The focus of the researchers was on developing vocabulary of the students through MALL devices.

Results and Analysis

The collection of data was done in two phases. Both the results are presented separately. The answers for this current study are calculated and presented using

SPSS. Using SPSS also helps to check the difference of the marks of the students against each vocabulary word in both the tests.

Pretest and Post test Result of Paired Sample T test including the Reliability Statistics of Cronbach alpha (Controlled Group Results

Table-1

Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 Pretest	8.12	30	1.195	.178
Post test	10.76	30	1.139	.126

In the above Table-01, there is one sample group considered in the study; one condition before experimentation i.e. pretest group (x1) and after experimentation i.e. post-test group (x2) each with sample size of n =30. Pretest results reveal that sample mean value m1 = 8.12 is less than the sample mean value m2 = 10.76 of Post-test group. The dispersion of sample data of both groups about the respective sample means is

measured by standard deviation (SD), let represented by s1 = 1.195 for Pretest group is however greater than of SD of Post-test group s2 = 1.137. The estimated standard errors (se) show the dispersion of sample means (m1, m2) about their respective population means let (μ_1, μ_2). Result shows that se1= 0.178 for Pretest group also greater than se2 = 0.236 for Post-test group

Table 2

Paired Samples Correlations

Paired Samples Correlations	Samples N	Correlation	p-value (Sig.)
Pair 1 Pretest & Posttest	30	.775	.000

In the above Table-02, the sample correlation between Pretest & Posttest groups is r = 0.775 with p-value = 0.000* < ($\alpha = 0.05$ as level of significance) reveals

that Ho: $\rho = 0$ is rejected and concluded that two population Pretest group (x1) & Posttest group (x2) are positively significantly correlated.

Table 3

Paired Samples Test

Paired Samples Test

Paired Samples Test	Paired Differences (d)					T	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Difference Lower	CIL of Upper			
Pretest – Posttest	-2.5432	.780	.101	-2.644	-2.334	-26.137	48	.000

In Table-03 below, the mean difference between paired sample ($m_d = m_1 - m_2 = -2.5432$ approx.) is examined by t-test statistic. The value of t-test statistic ($t = -2.5432$ with $df = 48$) with $p\text{-value} = 0.000^* < (\alpha = 0.05)$ indicates that the two sample groups represent two significantly different populations, and hence shows that post-test group performance is significantly much higher than the pretest group on the average. The estimated standard deviation (SD)

shown by $sd = 0.778$ describes the dispersion among the sample paired differences (d), whereas the estimated standard error (se) shown by $se(d) = 0.111$ describes the dispersion among the sample mean differences (m_d) about population paired mean difference (μ_d). And 95% Confidence Interval Limits (CIL) describe that the population mean difference (μ_d) is estimated to lie between the interval $[-2.644, -2.334]$.

Table 4

Case Processing Summary

		N	%
Cases	Valid	30	100.0
	Excluded ^a	0	.0
	Total	30	100.0

a. List wise deletion based on all variables in the procedure.

Table-04 shows case processing summary of valid paired data of sample ($N=30$) included as 100% in the analysis, nothing excluding.

Table-5

Reliability Statistics

Cronbach's Alpha Based on Actual Items	Cronbach's Alpha Based on Standardized Items	N of Items
$\alpha = 0.811$	$\alpha = 0.837$	2

In the above Table-05, a reliability analysis was carried out on the perceived task values scale comprising 2 item groups. For this Cronbach alpha (α) is used as test statistic to measure how well the reliability or internal consistency is between the item groups. In the given sample, the estimated both statistics of Cronbach alpha ($\alpha = 0.811$) and

the Standardized Cronbach alpha ($\alpha = 0.837$) fall between the interval $[0.8, .90]$ and hence shows better reliability & internal consistency between the two groups, Pretest (x_1) & Posttest (x_2). Most items appeared to be worthy of retention, resulting in a decrease in the alpha if deleted.

Table 6

Summary Item Statistics

Mean	Minimum (Pretest)	Maximum (Post-test)	Range (x1 - x2)	Ratio & Maximum / Minimum	= Variance	N of Items
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Item Means	mc = 10.533	m1 = 9.217	m2 = 11.850	md = 2.633	mr = 1.286	vb = 3.467	2
Item Variances	vp = 1.371	v1 = 1.079	v2 = 1.664	vd = 0.585	vr = 1.543	vv = 0.171	2
Inter-Item Correlations	.796	.796	.796	.000	1.000	.000	2

The above Table-06 describes the comparisons between both groups, Pretest (x1) & Posttest (x2); i.e. N= 2 item groups. The minimum value represents x1 and the maximum value represents x2. Thus mean value of x1 is m1 =9.217, and mean value of x2 is m2 =11.850; which shows the mean difference range md = (m2 – m1) = 2.633 and mean ratio as mr = (m2 / m1) =1.286 = (1+ 28.6%). These results reveal that post-test group has 2.633 (= md) favorable benefits in magnitude which is 28.6% proportionally higher over the pretest group. The combined mean of (m1, m2) is measured by the midpoint mc = 10.533, and between variance of (m1, m2) is measured

by vb = 3.467 describing the variability between the groups. Similarly, variance (x1) is v1 =1.079, and variance (x2) is v2 =1.664; which shows the variance difference as vd = (v2 – v1) = 0.585 and variance ratio as vr = (v2 / v1) =1.543. These results reveal significance between variability of post-test group over pretest group. The pooled variance of (v1, v2) is measured by vp = 1.371 describing the variability within the groups (x1, x2); and vv = 0.171 describes the variability between variances of the groups (x1, x2). The paired sample shows significantly +ve correlation (i.e. r = 0.796) between Pretest & Posttest groups.

Table-7

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
Mc = 21.07	Vc = 4.877	Sc = 2.208	2

Pretest and Post test Result of Paired Sample T test including the Reliability Statistics of Cronbach alpha (Experimental Group Results)

Table-1

Paired Samples Statistics

Pair	Mean	N	Std. Deviation	Std. Error Mean
1 PreTest (x1)	10.75	30	1.287	.166
PostTest (x2)	16.64	60	.977	.126

In the above Table-01, another sample group is taken in the study; one condition before experimentation i.e. pretest group (x1) and after experimentation i.e. post-test group (x2) each with sample size of n =30. Pretest results reveal that sample mean value m1 =

10.75 is less than the sample mean value m2 = 16.64 of Post-test group. The dispersion of sample data of both groups is measured by standard deviation (SD), let represented by s1 = 1.287 for Pretest group is however greater than of SD of Post-test group s2 =

0.977. The estimated standard errors (se) show the dispersion of sample means (m1, m2) about their respective population means

let (μ_1, μ_2). Result shows that $se_1 = 0.166$ for Pretest group also greater than $se_2 = 0.126$ for Post-test group.

Table-2

Paired Samples Correlations

	N	Correlation	Sig.
Pair 1 PreTest (x1) & PostTest (x2)	30	.732	.000

In the above Table-02, the sample correlation between Pretest & Posttest groups is $r = 0.732$ with $p\text{-value} = 0.000^* < (\alpha = 0.05)$ as level of significance) reveals

that $H_0: \rho = 0$ is rejected and concluded that two population Pretest group (x1) & Posttest group (x2) are positively significantly correlated.

Table-3

Paired Samples Test

Pair	PreTest – PostTest = (x1 - x2)	Paired Differences					T	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error	95% Confidence Interval of the Difference				
					Lower	Upper			
1		-6.983	.892	.115	-7.214	-6.753	60.617	59	.000

In Table-03 above, the mean difference between paired sample ($md = m_1 - m_2 = -6.983$ approx.) is examined by t-test statistic. The value of t-test statistic ($t = -60.617$ with $df = 59$) with $p\text{-value} = 0.000^* < (\alpha = 0.05)$ indicates that the two sample groups represent two significantly different populations, and hence shows that post-test group performance is significantly much higher than the pretest group on the average. The estimated standard deviation (SD)

shown by $sd = 0.892$ describes the dispersion among the sample paired differences (d), whereas the estimated standard error (se) shown by $se(d) = 0.115$ describes the dispersion among the sample mean differences (md) about population paired mean difference (μ_d). And 95% Confidence Interval Limits (CIL) describe that the population mean difference (μ_d) is estimated to lie between the interval $[-7.214, -6.753]$.

Table-4

Case Processing Summary

		N	%
Cases	Valid	30	96.8
	Excluded ^a	2	3.2
	Total	60	100.0

a. List wise deletion based on all variables in the procedure.

Table-04 shows case processing summary of valid paired data of sample (N=30) included

as 96.8% in the analysis, excluding 2 paired observations.

Table-5
Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.820	.828	2

In the above Table-05, a reliability analysis was carried out on the perceived task values scale comprising 2 item groups. For this Cronbach alpha (α) is used as test statistic to measure how well the reliability or internal consistency is between the item groups. In the given sample, the estimated both statistics of Cronbach alpha ($\alpha = 0.820$) and

the StandardizedCronbach alpha ($\alpha = 0.828$) fall between the interval [0.8, .90] and hence shows better reliability & internal consistency between the two groups, Pretest (x1) & Posttest (x2). Most items appeared to be worthy of retention, resulting in a decrease in the alpha if deleted.

Table-6
Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	mc = 13.342	m1 = 9.850	m2 = 16.833	md = 6.983	mr = 1.709	vb = 24.383	2
Inter-Item Correlations	.721	.721	.721	.000	1.000	.000	2

The above Table-08 describes the comparisons between both groups, Pretest (x1) & Posttest (x2); i.e. N= 2 item groups. The minimum value represents x1 and the maximum value represents x2. Thus mean value of x1 is m1 =9.850, and mean value of x2 is m2 =16.833; which shows the mean difference range md = (m2 – m1) = 6.983 and mean ratio as mr = (m2 / m1) =1.709 = (1 + 70.9%). These results reveal that post-

test group has 6.983 (= md) favorable benefits in magnitude which is 70.9% proportionally higher over the pretest group. The combined mean of (m1, m2) is measured by the midpoint mc = 13.342, and between variance of (m1, m2) is measured by vb = 24.383 describing the variability between the groups. The paired sample shows significantly +ve correlation (i.e. r = 0.721) between Pretest & Posttest groups.

Table-7
Scale Statistics

Mean	Variance	Std. Deviation	N of Items
Mc = 26.68	Vc = 4.423	Sc = 2.103	2

Findings and Discussion

Analyzing both the tests, the researchers are of the view that in the tests, the participants of the tests were not uncertain about test items. There are 50 items each for pre-test and post-test. No item was left unanswered

by the students. The vocabulary items were general vocabulary words which are commonly used. The level of research is grade III, in which a child is expected to know these words along with their concept. If we look at common words like cloud,

pencil, teacher, toothbrush, etc. The researchers found some interesting facts. The research suggested that in a few items, they have specific and limited concept only. In pre- test, they found that some of the students know the word but not the generalized concept. When test item enquired about *brother* and *sister*, they marked it as wrong because the understanding of the word *brother* means their own brother or their own sister or because they don't have any so they marked it wrongly. During the sessions of MALL, the students were fond of various innovative methods applied on the mobile phones and they participated in all the activities quite seriously. The researchers found that the results of post-test show remarkable difference in the frequency as well as in the understanding of the vocabulary word as the frequency against each word rose immensely. The results of this study reflect that there is vivid difference in performance of the students of experimental group as compared to controlled group students. Additionally, the performance of the learners is higher in the post test results of both the groups but significant difference can be viewed while comparing the post-test values of both groups. The outcomes of the study are similar with the investigation conducted by (Thornton & Houser, 2005; Sole & Neijmann 2010; Baleghzadeh & Oladrostam, 2010) who were of the view that mobile phones actually develop a constructive relationship with the learning of language. Zhao (2005) also pointed out that MALL makes the perfect ambiance for language learning purposes. The outcomes reflect that controlled group learners have

difference in performance of pre and post-test yet the difference is not significant. That may be that ESL learning in a traditional classroom environment becomes uninteresting for the learners and the overall process of learning becomes monotonous. Wang (2010) supported this viewpoint that some English language lessons are unable to make impact on the learners and resultantly demoralize the learners thus making them uninterested in learning process. In short, the findings of the study indicated a significant difference in performance of grade III learners in experimental groups. Viewing the results it can be claimed that the findings of the study are in complete agreement with the results of the research studies like Lu (2008), Cavus and Ibrahim (2009), Song and Fox (2005) Saran, Seferoglu and Cagiltay (2012), Fageeh (2013), Alavinia and Qoitassi (2013), Taj et al. (2017), and Ahmed, Armarego and Sudweeks (2017). The studies mentioned above also claim positive impact of MALL related to English language learning and also for vocabulary based learning.

Conclusion

The successful experiments of MALL in classrooms help the researchers to develop different mobile learning applications to attract the learners. Especially in ESL classrooms, MALL has made a vivid change in the process of learning and teaching. Mobile phones and MALL not only help to learn effectively but also innovatively. With the induction of MALL in classrooms, students can be engaged more and more. In Pakistan, teaching ESL learners is always difficult as the first language is Urdu which is entirely different from English. So, MALL can be

helpful in teaching grammar, speaking skills, writing skills as well as vocabulary to the learner. This research shows that new ways of teaching to students through MALL is a significant way of teaching and it helps to improve vocabulary of the students remarkably. This study also shows that MALL can be inducted in the ESL classrooms in Pakistan to get good results and learning from the students. The results of the study can be a source of useful insight for ESL young learners, English teachers, school administration, curriculum makers, and ESL researchers. ESL young learners may have full advantage of technology like mobile phone for vocabulary learning. ESL teachers may also plan their lessons with the inclusion of technology to facilitate the learners and to make their teaching interesting. The school administration can have insight related to the use of technology for positive results. The curriculum planners may introduce technology-based learning concepts and contents in the curriculum. ESL researchers too can have better understanding of the role of mobile phones in enhancing vocabulary of young learners and conduct more investigations related to the current research problem. The current area of research needs further research studies. The future researchers may conduct the same study with bigger samples. The identical research can be conducted in Pakistani public sector school setting. Another such study with addition of variables like motivation and attitude can be conducted.

References

- Ahmad, K. S., Armarego, J., & Sudweeks, F. (2017). The impact of utilising mobile assisted language learning (MALL) on vocabulary acquisition among migrant women English learners. *Interdisciplinary Journal of e-Skills and Lifelong Learning*, 13, 37-57.
- Ahmad, S. & Rao, C. (2013). Applying Communicative Approach in Teaching
- Alavinia, P., & Qoitassi, K. (2013). On the viability of vocabulary learning enhancement through the implementation of MALL: The case of Iranian EFL learners. *Journal of Language Teaching and Research*, 4(2), 412-426.
- Alavinia, P. and Qoitassi, K. (2013). On the Viability of Vocabulary Learning Enhancement through the Implementation of MALL: The Case of Iranian EFL Learners. *Journal of Language Teaching and Research*, 4, 2, 412-426.
- Ali, M. Y., Khawaja, W. S., & Bhatti, R. (2019). YouTube Usage of Faculty of an Engineering University of Karachi, Pakistan: Implications of Media Literacy through Librarian. *International Information & Library Review*, 51(4), 328–337.
- Anaraki, F. B. (2009). A flash-based mobile learning system for learning English as second language. Paper presented at the ICCET '09 Proceedings of the 2009 International Conference on Computer Engineering and Technology, Singapore, IEEE, 400-404.
- Bezircilioğlu, S. (2016). MOBILE ASSISTED LANGUAGE LEARNING. *Journal Of Educational & Instructional Studies In The World*, 6. 1 9 12
- Bicen, H., & Cavus, N. (2011). Social network sites usage habits of undergraduate students: case study of Facebook. *Procedia-*

Social and Behavioral Sciences, 28, 943-947.

Castells, M. (2011). The rise of the network society: *The information age: Economy, society, and culture I*. West Sussex John Wiley & Sons.

Cavus, N., & Ibrahim, D. (2009). m-Learning: An experiment in using SMS to support learning new English language words. *British Journal of Educational Technology*, 40(1), 78–91.

Chen, N. S., & Hsieh, S. W. (2008). Effects of short-term memory and content representation type on mobile language learning. *Language learning & technology*, 12(3), 93-113.

Chen, N.-S., Hsieh, S.-W., & Kinshuk, A. (2008). Effects of short-term memory and content representation type on mobile language learning. *Language Learning & Technology*, 12(3), 93-113.

Chinnery, G. M. (2006). Emerging technologies, going to the MALL: Mobile assisted language learning. *Language Learning & Technology*, 10(1), 9–16.

Demouy, V., & Kukulska-Hulme, A. (2010). On the spot: Using mobile devices for listening and speaking practice on a French language programme. *Open Learning: the Journal of Open and Distance Learning*, 25(3), 217–232.

Deng, H., & Shao, Y. (2011). *Self-directed English vocabulary learning with a mobile application in everyday context*. Paper presented at the 10th World Conference on Mobile and Contextual Learning: mLearn 2011 Conference Proceedings, Beijing, China. mLearn, 24-31.

Ducate, L., & Lomicka, L. (2013). Going mobile: Language learning with an iPod touch in intermediate French and German

classes. *Foreign Language Annals*, 46(3), 445–468.

Duman, G., Orhon, G., & Gedik, N. (2015). Research trends in mobile assisted language learning from 2000 to 2012. *ReCALL*, 27(02), 197-216.

English as a Foreign Language: a Case Study of Pakistan. *PortaLinguarum*, 20, 187-203.

Fageeh., A.A. I. (2013). Effects of MALL Applications on Vocabulary Acquisition and Motivation. *Arab World English Journal*, 4.121-128.

Gabarre, C., Gabarre, S., Din, R., Shah, P. M., & Karim, A. A. (2014). iPads in the foreign language classroom: A learner's perspective. *Southeast Asian Journal of English Language Studies*, 20(1), 115-127.

Gonulal, T. (2019). The use of Instagram as a mobile-assisted language learning tool. *Contemporary Educational Technology*, 10(3), 309-323.

Guy, R. (2009). *The Evolution of Mobile Teaching and Learning*. Santa Rosa, California: Informing Science Press.

Haidar, S., & Fang, F. (2019). English language in education and globalization: a comparative analysis of the role of English in Pakistan and China. *Asia Pacific Journal of Education*, 39(2), 165-176.

Jarvis, H. (2015). From PPP and CALL/MALL to a praxis of task-based teaching and mobile assisted language use. *Teaching English as a Second or Foreign Language Electronic Journal*, 19(1), 1-10.

Jarvis, H. (2015). From PPP and CALL/MALL to a Praxis of Task-Based Teaching and Mobile Assisted Language Use. *Test-Ej*, 19(1), n1.

- Jarvis, H., & Achilleos, M. (2013). From Computer Assisted Language Learning (CALL) to Mobile Assisted Language Use (MALU). *Tesl-ej*, 16(4), n4.
- Joliet, Y. (2007). M-Learning: A pedagogical and technological model for language learning on mobile phones. In J. Fong & F-L. Wang (Eds.), *Blended learning* (pp. 327–339).
- Kim, E. Y., Park, S. M., & Baek, S. H. (2011). Twitter and implications for its use in EFL learning. *Multimedia Assisted Language Learning*, 14(2), 113-137.
- Kim, H., & Kwon, Y. (2012). Exploring smartphone applications for effective mobile-assisted language learning. *Multimedia-Assisted Language Learning*, 15(1), 31-57.
- Kim, H.-S. (2011). Effects of SMS text messaging on vocabulary learning. *Multimedia Assisted Language Learning*, 14(2), 159-180.
- Kukulska-Hulme, A. (2009). Will mobile learning change language learning?. *ReCALL*, 21(2), 157-165.
- Kukulska-Hulme, A., & Shield, L. (2008). An overview of mobile assisted language learning: From content delivery to supported collaboration and interaction. *ReCALL*, 20(3), 271-289.
- Lan, Y.F., & Sie, Y.S. (2010). Using RSS to support mobile learning based on media richness theory. *Computers & Education*, 55(2), 723-732.
- Lan, Y.-J., Sung, Y.-T., & Chang, K.-E. (2007). A mobile-device-supported peer-assisted learning system for collaborative early EFL reading. *Language Learning & Technology*, 11(3), 130-151.
- Lim Abdullah, M., Hussin, Z., Asra, B., & Zakaria, A. R. (2013). M-Learning scaffolding model for undergraduate English language learning: bridging formal and informal learning. *TOJET: The Turkish Online Journal of Educational Technology*, 12(2), 217-233.
- Lomicka, L., & Lord, G. (2016). Social networking and language learning. *The Routledge handbook of language learning and technology*, 255-268.
- Lyddon, P. A. (2016). Mobile-assisted language learning and language learner autonomy. *CALL communities and culture—short papers from EUROCALL*, 302-306.
- Mayer, R. E. (2003). The promise of multimedia learning: using the same instructional design methods across different media. *Learning and instruction*, 13(2), 125-139.
- Motallebzadeh, K., & Ganjali, R. (2011). SMS: Tool for L2 vocabulary retention and reading comprehension ability. *Journal of Language Teaching and Research*, 2(5), 1111-1115
- Ng, S., Lui, A. K., & Wong, Y. K. (2015). An adaptive mobile learning application for beginners to learn fundamental Japanese language. In *Technology in Education. Transforming Educational Practices with Technology* (pp. 20-32). Springer, Berlin, Heidelberg.
- Orawiwatnakul, W. (2013). Crossword Puzzles as a Learning Tool for Vocabulary Development. *Electronic Journal of Research in Educational Psychology*, 11(2), 413-28.
- Oz, H. (2015). An Investigation of Preservice English Teachers' Perceptions of Mobile Assisted Language Learning. *English Language Teaching*, 8(2), 22-35.

- Palalas, A. (2011). ESP for Busy College Students. *IALLT Journal of Language Learning Technologies*, 41(1), 108-136.
- Rahman, T. (2007). Language planning in higher education: A case study of Pakistan. *TESOL Quarterly*, 41(2), 433-436.
- Saran, M., Seferoglu, G., & Cagiltay, K. (2012). Mobile language learning: Contribution of multimedia messages via mobile phones in consolidating vocabulary. *The Asia-Pacific Educational Researcher*, 21(1), 181-190.
- Shadiev, R., Liu, T., & Hwang, W. Y. (2020). Review of research on mobile-assisted language learning in familiar, authentic environments. *British Journal of Educational Technology*, 51(3), 709-720.
- Smith, W., & Crane, A. (2019). Worldreader: Leveraging Mobile Phones for Reading to Young Children in India and Jordan. *Childhood Education*, 95(5), 6-15.
- Solmaz, O. (2018). A critical review of research on social networking sites in language teaching and learning. *Contemporary Educational Technology*, 9(3), 315-330.
- Song, Y., & Fox, R. (2005). Integrating M-technology into web-based ESL vocabulary learning for working adult learners. In *Proceedings of IEEE International Workshop on Wireless and Mobile Technologies in Education 2005* (pp. 154-158). Los Alamitos, CA: IEEE Computer Society.
- Stockwell, G. (2010). Using mobile phones for vocabulary activities: Examining the effect of the platform. *Language Learning & Technology*, 14(2), 95-110.
- Stockwell, G., & Hubbard, P. (2013). Some emerging principles for mobile-assisted language learning. *The International Research Foundation for English Language Education*, 1-15.
- Tai, Y. (2012). Contextualizing a MALL: Practice design and evaluation. *Journal of Educational Technology & Society*, 15(2), 220-230.
- Taj, I. H., Ali, F., Sipra, M. A., and Ahmad, W. (2017). Effect of Technology Enhanced Language Learning on Vocabulary Acquisition of EFL Learners. *International Journal of Applied Linguistics & English Literature*, 6 (3) 10-19.
- Taylor, II, R. P. (2003). The computer in the school: Tutor, tool, tutee. *Contemporary issues in technology and teacher education*, 3(2), 240-252. Norfolk, Virginia, VA: Association for the Advancement of Computing in Education (AACE).
- Valarmathi, K. E. (2011). Mobile assisted language learning. *Journal of Technology for ELT*, 2(2), 1-8.
- Valk, J.-H., Rashid, A. T., & Elder, L. (2010). Using mobile phones to improve educational outcomes: An analysis of evidence from Asia. *The International Review of Research in Open and Distributed Learning*, 11(1), 117-140.
- Wagner, M. N. L., Donskaya, M. V., Kupriyanova, M. E., & Ovezova, U. A. (2016). Perspectives of Introduction of the Mobile-Assisted Language Learning (MALL) Technology. *International Journal of Environmental and Science Education*, 11(15), 8562-8571.
- Wong, L. H. (2012). A learner-centric view of mobile seamless learning. *British Journal of Educational Technology*, 43(1), 19-23.
- Wong, L. H., & Looi, C. K. (2010). Vocabulary learning by mobile-assisted authentic content creation and social

meaning-making: two case studies. *Journal of Computer Assisted Learning*, 26(5), 421-433.

Wong, L. H., & Looi, C. K. (2010). Vocabulary learning by mobile-assisted authentic content creation and social meaning-making: two case studies. *Journal of Computer Assisted Learning*, 26(5), 421-433.

Xodabande, I. (2017). The effectiveness of social media network telegram in teaching English language pronunciation to Iranian EFL learners. *Cogent Education*, 4(1), 1-14.

Yang, J. (2013). Mobile assisted language learning: review of the recent applications of emerging mobile technologies. *English Language Teaching*, 6(7), 19-25.

Yudhiantara, R., & Nasir, I. A. (2017). Toward mobile-assisted language learning

(MALL): Reaping mobile phone benefits in classroom activities. *Register Journal*, 10(1), 12-28.

Yudhiantara, R., & Nasir, I. A. (2017). Toward mobile-assisted language learning (MALL): Reaping mobile phone benefits in classroom activities. *Register Journal*, 10(1), 12-28.

Zhang, H., Song, W., & Burston, J. (2011). Reexamining the effectiveness of vocabulary learning via mobile phones. *The Turkish Online Journal of Educational Technology* 10 (3), 203-214.

Zuhri, F. (2016). MOBILE ASSISTED LANGUAGE LEARNING: THE RECENT APPLICATIONS OF EMERGING MOBILE TECHNOLOGIES. *Bahasadan Sastra Indonesia*, 3(1), 1-10