Mobile Assisted Language Learning Practices of Students at Tertiary Level in Pakistan

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Abstract

The paper attempts to analyze how mobile phones and related technologies affect the language learning practices of students at the tertiary level. Several tools are used in language education and mobile phone is one of them. This study has been conducted using a quantitative approach and enrolled students of BS (4 Years) constitute the population of the study from five public sector universities of Pakistan. A sample of 8878 students participated through a proportionate random sampling technique. A survey has been conducted and a structured questionnaire is used as a tool for data collection. The study findings outline that there are several tools used in language education and mobile-assisted technology is one of them. The study findings also assert that the use of mobile phones in education and especially in language learning is relatively a new phenomenon in developing countries such as Pakistan. Further, this study adds that e-dictionary, social networking, mobile games, usage of grammar in context, designing communication tasks, usage of authentic resources, facilitating comprehensibility, and AV aids have favourable effects on language learning practices of students at the tertiary level of educational institutions in Pakistan.

Keywords: *Mobile Assisted Technology, E-dictionary, Authentic Resources, Comprehension, Language Learning Practices.*

1. Introduction

Several tools are used in language education and mobile phone is one of them (Celik, 2013; Diao & Hedberg, 2020; Elaish, Shuib, Ghani, & Yadegaridehkordi, 2019; Shoaib, Usmani, & Ali, 2022). Mobile phones are used in almost all spheres of life, but their role in education and especially in language learning is relatively a new phenomenon (Ghorbani & Ebadi, 2020; Gutiérrez-Colón, Frumuselu, & Curell, 2023; L. Hsu, 2013; Shoaib, Tariq, Shahzadi, & Ali, 2022). The use of mobile phones and their associated technologies carry the advantage of the portability of devices (Jie & Sunze, 2022; Koon, 2022; Shoaib, Mustafa, & Hussain, 2022), ease of use, and a ubiquitous presence even in less developed areas (Bahari, Zhang, & Ardasheva, 2021; Lu, Meng, & Tam, 2014; Shoaib, Anwar, & Rasool, 2022; Shortt, Tilak, Kuznetcova, Martens, & Akinkuolie, 2023). Since most of the students studying at the university level possess a mobile phone device (Elaish et al., 2019; Jie & Sunze, 2022; Shoaib, Anwar, & Mustafa, 2022; Wrigglesworth & Harvor, 2018), it can be a great help in language learning for students. The present study, therefore, tries to analyze how mobile phones and related technologies affect the language learning practices of students at the tertiary level.

The Study Context

Mobile Assisted Language Learning (MALL) is an off-shoot of Computer Assisted Language Learning (CALL) (Huang, Yu, Tang, & Chang, 2021; S.-M. Lee, 2022; Shoaib, Ali, Anwar, & Abdullah, 2022; Tommerdahl, Dragonflame, & Olsen, 2022). While computers had been used for educational purposes since 1960s, the use of mobile phones as educational technology is recent phenomenon (Castañeda &

Cho, 2016; Chang & Hsu, 2011; Naseer, Shoaib, & Naseer, 2022). The recent break-out of the COVID-19 pandemic and the resultant online mode of education remarkably increased the use of mobile phones as a classroom technology (Anwar, Shoaib, & Mustafa, 2022; Saba Mariam, Anwar, & Shoaib, 2022). The mobile phone facilitated the online learning mode by providing the learners with various educational tools like e-dictionaries (Shoaib, Rasool, & Anwar, 2021; Shoaib & Ullah, 2021a, 2021b), Audio-Visual (AV) aids (Shoaib, Iqbal, & Tahira, 2021), mobile games (Shoaib, Fatima, & Jamil, 2021), and social networking (Shoaib, Ali, Anwar, & Shaukat, 2021; Shoaib, Ali, & Akbar, 2021). The language classroom was especially facilitated by the mobile-assisted technologies as they provided the learners opportunities not only to listen to the native speakers, but also to practice the same in an online virtual mode (Shoaib, Ahmad, Ali, & Abdullah, 2021; Shoaib, Ali, Anwar, Rasool, et al., 2021).

Delimitation: This study has been delimited to a quantitative approach, five public sector universities of Punjab province, and SEM model testing.

2. Review of Literature

Several studies reveal that language learning practices are the techniques the students use to improve the process of learning a language (Chang & Hsu, 2011; Dashtestani, 2016; Shoaib, Abdullah, & Ali, 2021; Woldetsadik, Bachore, Woldeab, & Gezahegn, 2022). Similarly, study findings assert that mobile-assisted technologies play a facilitative role in enhancing the language learning practices of the learners by increasing time on the task (Lin et al., 2020; Yu, Zhou, Yang, & Hu, 2022), facilitating comprehensibility (Gutiérrez-Colón et al., 2023; Yu et al., 2022), providing learners with authentic resources (Shoaib, 2021), offering them the communication tasks (S Mariam, Anwar, Shoaib, & Rasool, 2021), and by helping them use grammar in a real-life context (Anwar, Shoaib, & Zahra, 2021). The study findings report that the learners tend to spend more time on a task when doing it on a mobile phone device as compared to paper and pen mode (Ahmad, Ahmad, Shoaib, & Shaukat, 2021; Ahmad, Shoaib, & Shaukat, 2021). The tendency to stay longer in front of a screen comes from the audio-visual interactions that a learner develops (Shoaib, Abdullah, & Ali, 2020; Shoaib & Ullah, 2019). Similarly, the study reveals that mobile phones also facilitate comprehensibility by providing learners a chance to stay on a task longer (Chang & Hsu, 2011; Shoaib, Shaukat, Khan, & Saeed, 2013; Yu et al., 2022). Likewise, the desire of learners to use a mobile device more than using paper may be used as a resource in itself in a language classroom (Anwar, Shoaib, & Javed, 2013; De-la-Fuente, 2014; Diao & Hedberg, 2020; Yu et al., 2022). Several studies outline that one of the biggest challenges in a language classroom is the availability of authentic resources (Shadiev, Hwang, & Huang, 2017; Tong, Yin, & Tsung, 2022). Most of the resources used in the language classrooms in non-native English-speaking communities are created and designed by non-native speakers (Henry, Carroll, Cunliffe, & Kop, 2018; R. Zhang, Zou, & Xie, 2022). These resources do not offer the learners the modeling required for becoming proficient native-like speakers of a foreign language (Abdullah, Usmani, & Shoaib, 2023; Shoaib, 2023a, 2023b).

The studies assert that the mobile phone and its related technologies provide learners with authentic resources designed and created by the native speakers of a language (Jie & Sunze, 2021; C. Lee, 2022; Soyoof, Reynolds, Vazquez-Calvo, & McLay, 2021). The crux of the studies points out that designing communication tasks in a language classroom is another challenge that the use of a mobile phone can help overcome (Blume, 2020; Eryiğit, Bektaş, Ali, & Dereli, 2021; Shortt et al., 2023). The studies also have found that by providing access to online resources, a mobile phone throws open a world of online communication tasks (W.-Y. Hwang & Chen, 2013; Kirsch, 2018; Yang, Wang, & Mei, 2022). The learners independently use mobile phones for communicating with native speakers (Shoaib, Mustafa, & Hussain, 2023; Shoaib, Rasool, Anwar, & Ali, 2023; Shoaib, Usmani, & Abdullah, 2023). This also enhances learner autonomy (Lu et al., 2014; D. Zhang, Hennessy, & Pérez-Paredes, 2023).

The mobile phone also helps the learners in using grammar in context as decontextualized use of grammar does not facilitate learning in a language classroom (Xu & Peng, 2017; Xue & Churchill, 2022). Hence, this study has outlined the following conceptual framework based on the above review of literature (Figure 1):
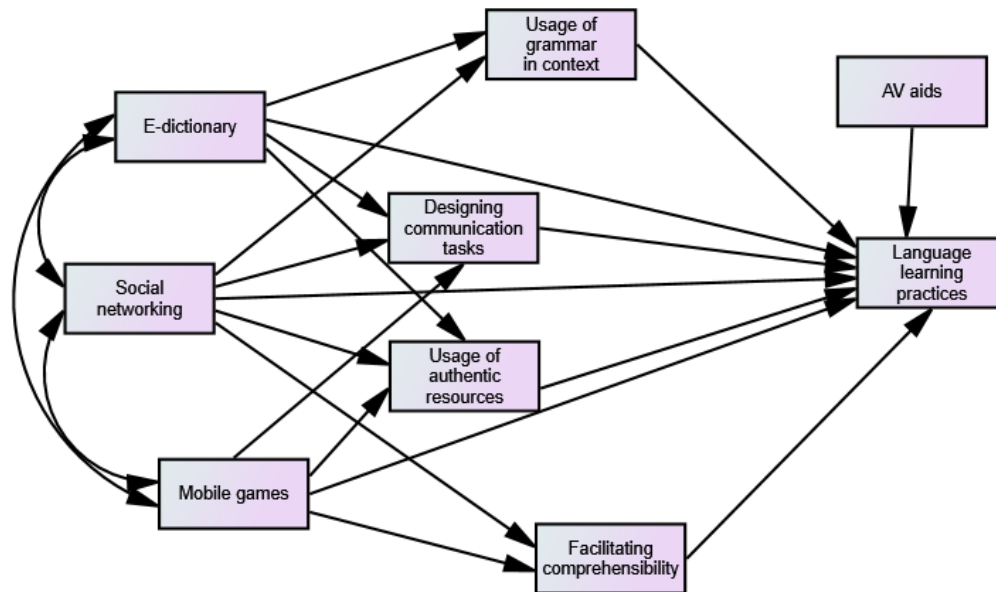

Figure 1: Conceptual Framework

Hypothesis 1: E-dictionary, social networking, and mobile games directly affect the designing communication tasks of students at the tertiary level.

Hypothesis 2: Social networking, mobile games, and e-dictionary directly affect the usage of authentic resources by students at the tertiary level.

Hypothesis 3: E-dictionary and social networking directly affect the usage of grammar in the context of students at the university level.

Hypothesis 4: Mobile games and social networking directly affect facilitating comprehensibility of students at the tertiary level.

Hypothesis 5: Usage of grammar in context, facilitating comprehensibility, and usage of authentic resources directly affect the language learning practices of students at the tertiary level.

Hypothesis 6: Designing communication tasks, AV aids, and e-dictionary directly affects the language learning practices of students at the tertiary level.

Hypothesis 7: Language learning practices have been directly affected by the social networking and mobile games of students at the university level.

Hypothesis 8: Mobile games indirectly affect language learning practices through the mediation of facilitative comprehensibility, usage of authentic resources, and designing communication tasks for students at the tertiary level.

Hypothesis 9: Language learning practices have been indirectly affected by social networking through the mediation of the usage of grammar in context, facilitating comprehensibility, usage of authentic resources, and designing communication tasks for students at the university level.

Hypothesis 10: E-dictionary indirectly affects language learning practices through the mediation of the usage of grammar in context, the usage of authentic resources, and the designing of communication tasks for students at the tertiary level.

3. The Data and Methods

Study Design and Population: This study has been conducted using a quantitative approach and university-enrolled students constitute the population of the study from five public sector universities of Punjab province i.e., 1) Bahauddin Zakariya University, Multan, 2) Government College University Faisalabad, Faisalabad 3) University of Gujrat, Gujrat, 4) University of Punjab, Lahore, and 5) Pir Mehr Ali Shah Arid Agriculture University, Rawalpindi. The students of BS (4 Years) program of the Faculty of Social Sciences and Arts & Humanities are the target population of the study.

Sampling and Sample: A sample of 8878 students of the BS program has participated through a proportionate random sampling technique. The sample size has been allocated to each university and faculty proportionally. It is significant to mention here that all the students have been enrolled in BS (4 Years) program of above mentioned two faculties. Further, departments and semesters of each program have also been considered for probability sampling. Other faculties and universities in the vicinity of Punjab province have been excluded from the study.

Technique and Tool: A survey has been conducted and a structured questionnaire has been developed to measure the attitudinal response of the students enrolled in five public sector universities mentioned above. The tool consisted of sections including identification, socio-demographic profile, e-dictionary, social networking, mobile games, usage of grammar in context, designing communication tasks, usage of authentic resources, facilitating comprehensibility, AV aids, and language learning practices.

Coding and Scoring: All the response categories of the variables have been coded before data collection. However, attitudinal response categories have been assigned 1 to strongly disagree and 4 to strongly disagree. Further, other socio-demographic variables have also been coded before the data entry and analysis process.

Pilot Testing: Table 1 provides the reliability statistical test of the variables used in the model. It is stated that all the variables consist of five items each except mobile games (6 items), AV aids (4 items), and language learning practices (19 items). The overall items used in the study are 59. Similarly, the value of the Cronbach Alpha test has been ranging from .702 to .885. However, the overall reliability value of the measurement scale is .962 which is highly acceptable in the social sciences discipline. It is worth stating here that the cut-off value is .700 and above.

Table 1

Reliability Statistical Test

Sr. No.	Variable Name	Code	No. of Items	Value of Cronbach Alpha
1	E-dictionary	EDICT	5	.702
2	Social networking	SOCIN	5	.789
3	Mobile games	MOBIG	6	.885
4	Usage of grammar in context	USAGI	5	.709
5	Designing communication tasks	DESCT	5	.748
6	Usage of authentic resources	USOAR	5	.737
7	Facilitating comprehensibility	FACIC	5	.799
8	AV aids	AVAID	4	.783
9	Language learning practices	LANLP	19	.825
	Overall		59	.962

4. Data Analysis, Results and Discussions

Data analysis has been done to draw results. Statistical analysis including correlation, and Structural Equation Modelling (SEM) measuring the direct and indirect effects of the model has been employed. Confirmatory Factor Analysis (CFA) has been done to confirm the factors before moving to employ

SEM.

The study findings assert that 63 percent of the students are females and most of the students have single marital status. Similarly, 69 percent of the students belonged to rural residential backgrounds. Likewise, the majority of the students belonged to the lower-income group. Correspondingly, the age bracket of the majority of students has been found from 22 to 26 years. It is significant to state here that 34 percent of the students are living in a hostel far from their families.

Table 2

Correlation Statistical Test (n=8878)

Varia.	EDICT	SOCIN	MOBIG	USAGI	DESCT	USOAR	FACIC	AVAID	LANLP
EDICT	1	.255[**]	.251[**]	.279[**]	.232[**]	.394[**]	.169[**]	.121[**]	.316[**]
SOCIN		1	.549[**]	.602[**]	.536[**]	.314[**]	.259[**]	.261[**]	.430[**]
MOBIG			1	.501[**]	.516[**]	.438[**]	.212[**]	.482[**]	.490[**]
USAGI				1	.452[**]	.470[**]	.337[**]	.327[**]	.506[**]
DESCT					1	.273[**]	.196[**]	.361[**]	.360[**]
USOAR						1	.463[**]	.279[**]	.841[**]
FACIC							1	.069[**]	.700[**]
AVAID								1	.283[**]
LANLP									1

Table 2 presents the correlation statistical test of the variables. The analysis reveals that there is a highly significant correlation between the usage of authentic resources (r=.84) and facilitating comprehensibility (r=.700) with the variable language learning practices. The data in the table indicate that there is a positive weak and moderate correlation among all variables including e-dictionary, social networking, mobile games, usage of grammar in context, designing communication tasks, usage of authentic resources, facilitating comprehensibility, AV aids, and language learning practices. It is stated that language learning practices have a significant positive correlation with other predictors as mentioned in the table. The study findings are supported by the studies of Pérez-Paredes, Ordoñana Guillamón, and Aguado Jiménez (2018), Jie and Sunze (2021), and Shortt et al. (2023).

Table 3 outlines the effect of an independent variable on a dependent variable as mentioned in the conceptual model. The details of the hypothesis and results are given below:

Table 3

Regression Weights, Covariances, and Variances of the Model (n=8878)

Variable Codes			Standardized Regression Weights	Estimate	S.E.	C.R.	P
EDICT	--->	DESCT	.066	.076	.010	7.404	***
SOCIN	--->	USOAR	.056	.059	.011	5.130	***
SOCIN	--->	DESCT	.350	.422	.012	34.155	***
MOBIG	--->	USOAR	.333	.321	.010	30.599	***
MOBIG	--->	FACIC	.100	.076	.009	8.205	***
EDICT	--->	USAGI	.134	.177	.011	15.539	***
EDICT	--->	USOAR	.297	.301	.010	31.560	***
MOBIG	--->	DESCT	.307	.340	.011	29.970	***
SOCIN	--->	USAGI	.568	.776	.012	65.685	***
SOCIN	--->	FACIC	.204	.167	.010	16.674	***
USAGI	--->	LANLP	.018	.040	.012	3.296	***
FACIC	--->	LANLP	.419	1.514	.017	91.309	***

USOAR	--->	LANLP	.663	1.873	.015	127.381	***
DESCT	--->	LANLP	.042	.103	.014	7.559	***
AVAID	--->	LANLP	.023	.042	.008	5.204	***
EDICT	--->	LANLP	.041	.118	.014	8.386	***
SOCIN	--->	LANLP	.097	.287	.020	14.736	***
MOBIG	--->	LANLP	.092	.250	.016	15.576	***
Covariances							
EDICT	<-->	SOCIN		1.356	.058	23.322	***
SOCIN	<-->	MOBIG		3.057	.067	45.337	***
EDICT	<-->	MOBIG		1.446	.063	22.909	***
Variances							
EDICT				5.497	.083	66.622	***
SOCIN				5.126	.077	66.622	***
MOBIG				6.049	.091	66.622	***
AVAID				13.758	.207	66.622	***
e1				4.748	.071	66.622	***
e2				4.059	.061	66.622	***
e3				3.191	.048	66.622	***
e5				5.935	.089	66.622	***
e4				7.788	.117	66.622	***

Hypothesis 1: E-dictionary, social networking, and mobile games directly affect the designing communication tasks of students at the tertiary level.

The study findings in Table 3 reveal that e-dictionary (Beta value=.066), social networking (Beta value=.350), and mobile games (Beta value=.307) directly affect the designing communication tasks of students at the tertiary level. It is stated that the hypothesis has been accepted with the p-value. The results indicate that e-dictionary has been consulted by the students to enhance their skills in designing communication tasks. Similarly, they also use mobile to connect with other fellows through social networking sites (Lai, 2016; Y.-J. Lee, 2022). This process enhances their design communication tasks (K.-C. Hsu & Liu, 2021; Zou, Li, & Li, 2018). Likewise, mobile games have also been reported as a predictor of designing communication tasks among students at the tertiary level (Smith, Giacon, & McLean, 2018; Soyoof, Reynolds, Chan, Tseng, & McLay, 2023). The study findings are supported by the results of Chen and Yeh (2019), Roohani and Heidari Vincheh (2023), and Bahari et al. (2021).

Hypothesis 2: Social networking, mobile games, and e-dictionary directly affect the usage of authentic resources by students at the tertiary level.

The data assert that social networking (Beta value=.056), mobile games (Beta value=.333), and e-dictionary (Beta value=.297) directly affect the usage of authentic resources by students at the tertiary level. It has been revealed that the hypothesis has been accepted that these three variables are predicting the usage of authentic resources by students at the university. The results outline that social networking on the internet using mobile predicts the usage of authentic resources along with mobile games. Students try to develop and use it as an authentic resource for language learning practices (Tong et al., 2022; R. Zhang et al., 2022). However, e-dictionary has also been reported as a predictor of authentic resources for language learning of students at the tertiary level of educational institutions (Henry et al., 2018; Shadiev et al., 2017). The results confirmed several study findings that mobile-assisted technology supports language learning practices of students at different educational levels (Diao &

Hedberg, 2020; Elaish et al., 2019; Koon, 2022; Lai, 2016).

Hypothesis 3: E-dictionary and social networking directly affect the usage of grammar in the context of students at the university level.

The analysis outlines that e-dictionary (Beta value=.100) and social networking (Beta value=.204) directly affect the usage of grammar in the context of students at the university level. The results confirm the hypothesis based on the p-value i.e., 0.05. The study reveals that e-dictionary and social networking predict the usage of grammar in the context of language learning practices of students at the tertiary level of educational institutions. Similarly, results are also supported by several studies that language learning practices have been supported by social networking and e-dictionary usage by the students during their educational activities (Liu & Chen, 2015; Lu et al., 2014; Wrigglesworth & Harvor, 2018).

Hypothesis 4: Mobile games and social networking directly affect facilitating comprehensibility of students at the tertiary level.

The analyzed data show that mobile games (Beta value=.134) and social networking (Beta value=.568) directly affect facilitating comprehensibility of students at the tertiary level. The inferential statistical data confirm the hypothesis that mobile games and social networking predict the facilitating comprehensibility of language learning practices of the students at the university level. Hence, mobile games are the major source of facilitation of comprehensibility in terms of language learning practices (Grigoryan, 2022; Jie & Sunze, 2021; D. Zhang et al., 2023). Similarly, social networking using mobile has also predicted the facilitation of comprehensibility of language practices among university students (Booton, Hodgkiss, & Murphy, 2023; Ghorbani & Ebadi, 2020; Shortt et al., 2023). It is worth stating that the findings of this study have been aligned with the study findings of Blume (2020) and Soyoof et al. (2023) that mobile games are a supportive factor of students' language learning practices.

Hypothesis 5: Usage of grammar in context, facilitating comprehensibility, and usage of authentic resources directly affect the language learning practices of students at the tertiary level.

The crux of the study describes that usage of grammar in context (Beta value=.018), facilitating comprehensibility (Beta value=.419), and usage of authentic resources (Beta value=.663) directly affect language learning practices of students at the tertiary level. The results confirm the hypothesis that usage of grammar in context and facilitating comprehensibility predict language learning practices of students at the university level. Similarly, the usage of authentic resources also predicts language learning practices of the students at the tertiary level of educational institutions (G.-J. Hwang & Fu, 2019; Kuru Gönen & Zeybek, 2022; Roy, Brine, & Murasawa, 2016; R. Zhang & Zou, 2022). Grammar in context, comprehension, and usage of authentic resources support the language learning practices of the students (Jones et al., 2017; S.-M. Lee, 2022). Several non-native English-speaking students practice results to enhance language learning (Eubanks, Yeh, & Tseng, 2018; Lu et al., 2014; Qian, Owen, & Bax, 2018). It has also been argued by several researchers that grammar in context and the usage of authentic resources support students to strengthen their foreign language (Xu & Peng, 2017; Xue & Churchill, 2022; Yang et al., 2022; D. Zhang et al., 2023).

Hypothesis 6: Designing communication tasks, AV aids, and e-dictionary directly affects the language learning practices of students at the tertiary level.

The study findings depict that designing communication tasks (Beta value=.042), AV aids (Beta value=.023), and e-dictionary (Beta value=.041) directly affect the language learning practices of students at the tertiary level. Statistical analysis confirms the hypothesis that designing communication tasks by students and using AV aids results in language learning practices. Correspondingly, the usage of e-dictionary also predicts language learning practices of students at the tertiary level of educational institutions (De-la-Fuente, 2014; Henry et al., 2018; Y.-J. Lee, 2022). It is significant to mention here

that designing communication tasks such as strategic thinking, problem-solving, technical language, and knowledge skills results in language learning practices of students at the university (Celik, 2013; Ma, 2017; Y. Zhang & Liu, 2022). Similarly, AV aids including instructional material for listening and watching also predict language learning practices (C. Lee, 2022; Xodabande & Atai, 2022). Likewise, e-dictionary on mobile phones also enhances language learning practices as it is checked to keep in the pocket in any place (Henry et al., 2018; Smith et al., 2018). Hence, the main argument of this hypothesis has been supported by several studies such as Eubanks et al. (2018), Shadiev, Yang, Reynolds, and Hwang (2022), and Ebadijalal and Yousofi (2023).

Hypothesis 7: Language learning practices have been directly affected by the social networking and mobile games of students at the university level.

The study summarizes that language learning practices have been directly affected by the social networking (Beta value=.097) and mobile games (Beta value=.092) of students at the university level. The study confirms the hypothesis that social networking sites connect university students to friends, scholars, family members, and unknown persons as well through Facebook, Twitter, LinkedIn, EMO, Instagram, etc. It is essential to state that the medium of communication on these networking sites is English (Ataeifar, Sadighi, Bagheri, & Behjat, 2019; Y.-J. Lee, 2022). Hence, language learning practices have been predicted by social networking and mobile games (Castañeda & Cho, 2016). It has been observed that students learn language through mobile games (Chen & Yeh, 2019).

Table 4 describes the indirect effects of the model showing an indirect path along with an unstandardized estimate and p-value. The details of the hypothesis and results are as followings:

Hypothesis 8: Mobile games indirectly affect language learning practices through the mediation of facilitative comprehensibility, usage of authentic resources, and designing communication tasks for students at the tertiary level.

The study findings point out that mobile games indirectly affect language learning practices through the mediation of facilitative comprehensibility (Beta value=0.115), usage of authentic resources (Beta value=0.602), and designing communication tasks (Beta value=0.035) of students at the tertiary level. The hypothesis has been confirmed that facilitative comprehensibility, usage of authentic resources, and designing communication tasks play a pivotal role to enhance the skill of language learning practices of students at the tertiary level of educational institutions. It is significant to state here that students use mobile phones to construct the meaning of the messages shown on mobile games (Soyoof et al., 2023). Correspondingly, the usage of authentic material such as documentaries, online videos, news segments, commercials, songs, shows, podcasts, artwork, postcards, photographs, advertisements, and signs predict the language learning practices of students at the university level (Blume, 2020). It also plays the role of mediator to enhance language learning using mobile games (Chen & Yeh, 2019). It has also been argued as mentioned in several studies that mobile games results in language learning practices of students at tertiary-level institutions (Roohani & Heidari Vincheh, 2023).

Table 4
Indirect Effects of the Model (n=8878)

Indirect Path	Unstandardized Estimate	Lower	Upper	P-Value	Standardized Estimate
MOBIG --> FACIC --> LANLP	0.115	0.088	0.138	0.001	0.042**
MOBIG --> USOAR --> LANLP	0.602	0.561	0.638	0.001	0.221**
MOBIG --> DESCT --> LANLP	0.035	0.028	0.042	0.001	0.013**
SOCIN --> USAGI --> LANLP	0.031	0.049	0.014	0.002	0.010**
SOCIN --> FACIC --> LANLP	0.253	0.226	0.279	0.001	0.085**

SOCIN --> USOAR --> LANLP	0.110	0.073	0.145	0.001	0.037**
SOCIN --> DESCT --> LANLP	0.043	0.034	0.053	0.001	0.015***
EDICT --> USAGI --> LANLP	0.007	0.011	0.003	0.002	0.002**
EDICT --> USOAR --> LANLP	0.563	0.531	0.594	0.001	0.197***
EDICT --> DESCT --> LANLP	0.008	0.006	0.010	0.001	0.003***

Significance of Estimates: *** p < 0.001, ** p < 0.010, * p < 0.050, † p < 0.100

Hypothesis 9: Language learning practices have been indirectly affected by social networking through the mediation of the usage of grammar in context, facilitating comprehensibility, usage of authentic resources, and designing communication tasks for students at the university level.

The statistical analysis in Table 4 and Figure 2 reveals that language learning practices have been indirectly affected by social networking through the mediation of usage of grammar in context (Beta value=0.031), facilitating comprehensibility (Beta value=0.253), usage of authentic resources (Beta value=0.110), and designing communication tasks (Beta value=0.043) of students at the university level. The hypothesis has been confirmed and the social networking predicts language learning practices of students at the tertiary level of educational institutions. It has been argued that the usage of grammar in a context such as grammatical structure, from meaning to from, and rules in sentences confirm the mediator role in language learning practices of students (D. Zhang et al., 2023). Social networking sites use a foreign language for communication results in enhancing the usage of authentic resources and designing communication tasks to predict language learning practices of students at the tertiary level of educational institutions (Churchill, Lu, & Chiu, 2014; Soyoof et al., 2021).
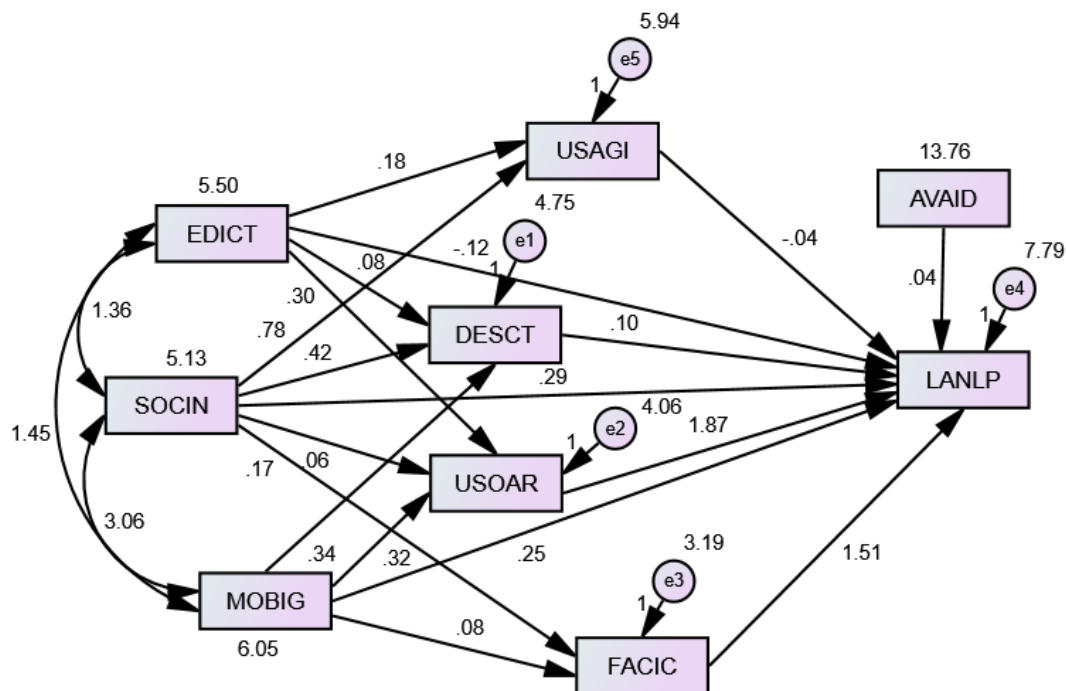

Figure 2: Model Fit

Hypothesis 10: E-dictionary indirectly affects language learning practices through the mediation of the usage of grammar in context, the usage of authentic resources, and the designing of communication tasks for students at the tertiary level.

The study findings assert that e-dictionary indirectly affects language learning practices through the

mediation of usage of grammar in context (Beta value=0.007), usage of authentic resources (Beta value=0.563), and designing communication tasks (Beta value=0.008) of students at tertiary level. The hypothesis confirmed that e-dictionary affects language learning practices indirectly through the mediation of the usage of grammar in context, the usage of authentic resources, and the designing of communication tasks. It has also been reported that the students use mobile in modern contingencies of life and try to learn different foreign language words (Webb & Doman, 2020). They try to understand the authentic resources and also use them for communication. Hence, e-dictionary facilitates students to learn a foreign language at the university level. Mobile usage is very common among university students (Booton et al., 2023; Eryiğit et al., 2021; Shortt et al., 2023). During COVID-19 all the classes were shifted to online and students used mobile phones extensively in developed and developing countries.

5. Conclusion

The study concludes that there are several tools used in language education and mobile-assisted technology is one of them. The study findings assert that mobile phones are frequently used in education especially in language learning and it is relatively a new phenomenon in developing countries such as Pakistan. Since most of the students studying at the university level possess mobile phone, it can help students in language learning. Hence, the study crux reveals that the major predictors of language learning practices are mobile-assisted technologies. Further, this study adds that e-dictionary, social networking, mobile games, usage of grammar in context, designing communication tasks, usage of authentic resources, facilitating comprehensibility, and AV aids have favorable effects on language learning practices of students at the tertiary level of educational institutions in Pakistan.

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