Research Trends in Computer-assisted Language Learning and Mobile-assisted Language Learning for English

Hye Ji ,Yoon[1] and Hikyoung, Lee[2]

[1]Korea University, [2] Korea University

yhj5329@gmail.com, hleeku@korea.ac.kr

Abstract

The present study aims to examine research that has been published about the effects of Computer-assisted Language Learning (CALL) and Mobile-assisted Language Learning (MALL) on English learning. In particular, this study examines English as a Foreign Language (EFL) learning of native Korean speakers in Korea. A meta-analysis conducted on research trends shows the effects of CALL and those of MALL on Koreans learning English. A total of 59 studies were selected according to search criteria and examined through a meta-analysis. Only quantitative studies have been analyzed to determine the quantifiable effects CALL and MALL. Major results show that CALL and MALL are overall beneficial and that they are tools that facilitate language learning. Other findings show that a majority of studies have shown that learning conditions and overall language competence were enhanced.

Keywords

CALL, MALL, mobile learning, EFL, English learning

Introduction

1. Computer - assisted Language Learning (CALL)

1.1 What is CALL?

CALL refers to language learning pedagogy that involves the use of computers in the process. Computers have become an indispensable tool for people ever since its conception. Computers are utilized for learners learning languages as it enables them to interact with other language learners as well as native speakers. In this paper, CALL will be used to refer to English language learning through computers. As a subarea of CALL, Computer Mediated Communication (CMC) is the most common way of learning the target language. With the development of the Internet, CMC has come to refer to communication between people through networked computers. CMC is categorized into two types: asynchronous and synchronous. Electronic mail (e-mail) is the most common form of asynchronous CMC. E-mail has been shown to help EFL learners develop English reading and writing skills (Tella, 1991). Skype is the most common example of synchronous CMC. A past study shows that it enabled EFL leaners to improve English speaking and writing skills (Warschauer, 1996).

1.2 Research trends in CALL

Although this paper examines studies conducted from 2007 to 2018, research in CALL for learning and teaching English has been conducted since the 1960s (Warschauer & Healey, 1998). Language skills (e.g. speaking, listening, reading, and writing) and language areas (e.g. pronunciation, grammar, vocabulary, and discourse) using CALL have been studied (Levy & Stockwell, 2006). Many researchers have proved that the use of CMC (synchronous or asynchronous) enhanced EFL learners' English language skills (Cha, 2007; Kim, 2009, among others). However, research on productive language skills (e.g. speaking and writing) are less likely to be found compared to those on receptive skills (e.g. listening and reading).

2 Mobile-assisted Language Learning (MALL)

2.1 What is MALL?

As the next generation of CALL and learning languages assisted by technology, mobile devices

have taken its turn to lead the future (Chinnery, 2006). Any kind of language learning using mobile devices is referred to as Mobile-Assisted Language Learning (MALL). Most research conducted through MALL use applications made for educational purposes. The aforementioned language skills and areas have been tested to determine the significance of MALL in an EFL learning context. Mobile learning in this paper is defined as learning or teaching the target language via handheld devices (e.g. iPods, iPads, smartphones, and tablet PCs), which are available regardless of time and place, and which provide formal or informal materials.

2.2 Research trends of MALL

The time period for investigation has been set from the year of 2007 to 2018 for MALL as well in order to trace recent trends in learning the target language, English, via technology. In a Korean EFL context, research on MALL has been found to focus on various language skills and areas. Most of the research found within a Korean EFL context deal with mobile learning and most of the devices used were smartphones and tablet PCs. Research has also been conducted with mobile applications for social networking services (SNS) such as KakaoTalk, and BAND. In addition, vocabulary apps, and game apps were used to determine the effectiveness of MALL.

3 Method

This study employs a meta-analysis of quantitative research studies conducted on CALL and MALL. 59 primary studies from online databases which fit the study's selection criteria were examined. 168 independent samples were coded using a comprehensive meta-analysis software program to compute the effect sizes using Hedges'g. The retrieved studies reporting means and statistical values of English proficiency (e.g. reading, listening, speaking, writing, pronunciation, and grammar) and affective factors (e.g. interest, motivation, confidence, anxiety, difficulty, and efficiency) have been computed with different moderators. Overall effect sizes were computed, including for both CALL and MALL, to determine the effectiveness of each method on learning English.

4 Results

Table 1: Overall Effect Sizes of CALL and MALL

		[95% CI]	Heterogeneity		
	k	ES	Q-value	df (Q)	P-value
Fixed	168	0.501[.462 - .540]	1251.575	167	0
Random	168	0.640[.530 - .751]			

In order to verify the effectiveness of CALL and MALL for EFL learners in Korea, the overall average ES (effect size) was measured using Hedges'g for the 168 independent samples. The effect size for the random effect (ES=.640) shows medium effect size on Cohen's scale [1]. This implies that CALL and MALL are effective for learning English in a Korean EFL context.

5 Conclusion

The present study has attempted to show the positive effects of CALL and MALL for Korean learners of English through a meta-analysis of research studies conducted in Korea. It is clear that CALL and MALL are beneficial in English learning and provide easily accessible means to obtain knowledge and engage in authentic interaction.

References

Cha, Y.J. (2007). Study on the quality of language in text-based CMC tasks. *Multimedia-Assisted Language Learning*. 10,1, 9-35.

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

Kim, J.Y. (2007). Survey on effective studies in CALL. *Modern English Education*. 8,3, 289-317.

Levy, M., & Stockwell, G. (2006). *CALL dimensions*. London: Lawrence Erlbaum Associates.

Tella, S. (1991). *Introducing international communications networks and electronic mail into foreign language classrooms*. Helsinki: University of Helsinki.

Warschauer, M. (1996). Computer-assisted language learning: An introduction. *Multimedia Language Teaching*. 3-20.

Warschauer, M., & Healey, D. (1998). Computers and language learning: An overview. *Language Teaching*. 31,2, 57-71.

---

[1] Small, medium, and large ES are .20, .50, and .80 respectively.