

Mobile Assisted Language Learning: Overview of Literature from 2008 to 2012

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Abstract: This paper provides a content analysis of studies in Mobile Assisted Language Learning (MALL) that were published in ten Social Science Citation Index (SSCI) journals, including ReCALL, Computers & Education, and Computer Assisted Language Learning so on. Only papers that were identify as MALL-related, full-length paper, and published during 2008 to 2012 were analyzed. After comprehensive review, 44 articles were used for this study to answer the following questions: (1) what is the status of those MALL articles published in these selected journals from 2008 to 2012, (2) what research sample groups related to MALL were selected in these articles from 2008 to 2012, and (3) what language learning topics related to MALL were adopted in these articles from 2008 to 2012? According the analysis results, the distribution of articles is 12, 6, 7, 10, and 9 from 2008 to 2012. It was found that research samples in higher education were selected most (31). We can find that the elementary school students (3), high school students (5), and teachers (1) are seldom used in MALL activities. Hence, we may claim one of the trends shaping the MALL studies from 2008 to 2012 is to exploit college student as convenience sample. On the other hand, the results implied that MALL researchers should pay more attention on applying MALL to elementary, high school, and others because it becomes popular for K-12 students using mobile devices to access digital information. Overall, the analysis results provide insights and patterns of MALL research trends for language instructors and researchers. Consequently, this study contributes to clarify the route of pass five years and indicate a feasible roadmap for MALL research.

Keywords: Content analysis, mobile assisted language learning, research trends.

1. Introduction

Chinnery (2006) concluded that it does seem quickly headed for a world where m-learning is a fashionable channel for language study. Furthermore Chinnery (2006) quotes Colpaert's (2004) words as "the mobile hype will burst out as soon as tools become available allowing teachers and researchers to develop their own mobile applications and tools." It is found that the number of articles about mobile and ubiquitous learning has significantly increased from 2001 to 2010 (G. J. Hwang & Tsai, 2011). Many studies investigated the feasible roles of mobile technology, such as smart phone and tablet, in the educational context and scenario (G.-J. Hwang, Tsai, & Yang, 2008; Mcconatha, Praul, & Lynch, 2008). The term "mobile learning" generally refers to a subset of "ubiquitous learning" by using handheld computers for learning, such as smart phone, tablets, and notebooks. In general, the definition of mobile learning focuses on enhancing knowledge building and understanding of learners by changing the pattern of learning activities; ubiquitous learning emphasized on learning anytime, anywhere. We use "mobile" to refer any sort of learning that learners can take advantage of the learning opportunities offered by mobile technologies; meanwhile, we use "ubiquitous" to refer that learners can learn anywhere and at any time. There was a strong view that mobile learning should move away from the model of 'anytime, anywhere' access(Sharples, 2006). Thus, we use mobile learning to cover both of them in this paper.

Mobile-Assisted Language Learning (MALL) is the intersection of mobile learning and computer-assisted language learning. Many studies indicated that MALL is very effective, especially for vocabulary acquisition and listen comprehension (Chang, Chen, & Hsu, 2011; H.-R. Chen &

Huang, 2010; Lee, 2009; Sandberg, Maris, & de Geus, 2011). Mobile devices can gather and respond information to the current location and environment. For instance, C.-M. Chen & Li (2010) proposed a personalized context-aware ubiquitous learning system (PCULS) to scaffold vocabulary learning by locating learners' position from GPS. Wu, Sung, Huang, Yang, & Yang (2011) proposed a ubiquitous English learning system that integrates a reading guidance mechanism into the development of an English learning environment. Huang, Huang, Huang, & Lin (2012) reported a ubiquitous English vocabulary learning (UEVL) system to enhance vocabulary acquisition systematically and analyze learning portfolios on UEVL.

This paper provides a content analysis of studies in Mobile Assisted Language Learning (MALL) that were published in ten Social Science Citation Index (SSCI) journals, including British Journal of Educational Technology (BJET), Computer Assisted Language Learning (CALL), Computers and Education (C&E), Educational Technology & Society (ET&S), Innovations in Education and Teaching International (IETI), Interactive Learning Environments (ILE), Journal of Computer Assisted Learning (JCAL), Journal of the European Association for Computer Assisted Language Learning (ReCALL), Language Learning & Technology (LLT), and Turkish Online Journal of Educational Technology (TOJET). Over three thousand articles were published in those journals. Only papers that were identified as MALL-related, full-length paper, and published during 2008 to 2012 were analyzed. After comprehensive review, 44 articles were used for this study to answer the following questions:

- (1) what is the status of those MALL articles published in these selected journals from 2008 to 2012,
- (2) what research sample groups related to MALL were selected in these articles from 2008 to 2012,
- (3) what language learning topics related to MALL were adopted in these articles from 2008 to 2012?

2. Results

According to the analysis results, the distribution of articles is 12, 6, 7, 10, and 9 from 2008 to 2012. The following journals, which most concerned about MALL, are defined as "core" journals in this paper: ReCALL, Computers & Education (C&E), Computer Assisted Language Learning (CALL), British Journal of Educational Technology (BJET), and Journal of Computer Assisted Learning (JCAL). Figure 1 shows the number of MALL-related articles published from 2008 to 2012. The red bar indicates the number of MALL-related articles published in ten SSCI journals; the blue bar indicates the number of MALL-related articles published in five "core" journals, that is 10, 6, 2, 5, and 8. The number of articles in 2008 is highest because ReCALL journal has a special issue on MALL edited by Lesley Shield, Agnes Kukulska-Hulme and June Thompson (Shield & Kukulska-Hulme, 2008). From the results, it can be seen that the proportion of MALL is very small in mobile and ubiquitous learning studies. Furthermore, most of MALL-related articles are contributed from "core" journals.

There are ten articles selected from ReCALL, including: 1) An overview of mobile assisted language learning: From content delivery to supported collaboration and interaction. 2) Challenges faced by modern foreign language teacher trainees in using handheld pocket PCs (Personal Digital Assistants) to support their teaching and learning. 3) Identity, sense of community and connectedness in a community of mobile language learners. 4) Investigating learner preparedness for and usage patterns of mobile learning. 5) L'italiano al telefonino: Using SMS to support beginners' language learning. 6) MALL Technology: Use of Academic Podcasting in the Foreign Language Classroom. 7) Mobile Assisted Language Learning in university EFL courses in Japan: developing attitudes and skills for self-regulated learning. 8) The potential of using a mobile phone to access the Internet for learning EFL listening skills within a Korean context. 9) Using PDA for undergraduate student incidental vocabulary testing. 10) Will mobile learning change language learning?

Five MALL-related articles were selected from C&E, including: 1) A ubiquitous English vocabulary learning system: Evidence of active/passive attitudes vs. usefulness/ease-of-use. 2) Using ubiquitous games in an English listening and speaking course: Impact on learning outcomes and motivation. 3) Cell phone video recording feature as a language learning tool: A case study. 4) Is single or dual channel with different English proficiencies better for English listening comprehension, cognitive load

and attitude in ubiquitous learning environment? 5) Mobile English learning: An evidence-based study with fifth graders.

Six articles selected from CALL are: 1) Using audio blogs to assist English-language learning: an investigation into student perception. 2) A mobile-assisted synchronously collaborative translation–annotation system for English as a foreign language (EFL) reading comprehension. 3) Effectiveness of vocabulary learning via mobile phone. 4) Content presentation modes in mobile language listening tasks: English proficiency as a moderator. 5) Learners' attention to input during focus on form listening tasks: the role of mobile technology in the second language classroom. 6) Optimising the use of wireless application protocol (WAP) sites for listening activities in a Korean English as a foreign language (EFL) context.

There are five MALL-related papers from BJET. They are: 1) Investigating the roles of perceived playfulness, resistance to change and self-management of learning in mobile English learning outcome. 2) The impact of mobile learning on students' learning behaviours and performance: Report from a large blended classroom. 3) m-Learning: An experiment in using SMS to support learning new English language words. 4) Effect of screen size on multimedia vocabulary learning. 5) Voice over instant messaging as a tool for enhancing the oral proficiency and motivation of English-as-a-foreign-language learners. There are five articles selected from JCAL, including: 1) A context-aware ubiquitous learning environment for language listening and speaking. 2) Effectiveness of vocabulary learning via mobile phone. 3) How artefacts mediate small-group co-creation activities in a mobile-assisted seamless language learning environment? 4) Vocabulary learning by mobile-assisted authentic content creation and social meaning-making: two case studies. 5) The role of electronic pocket dictionaries as an English learning tool among Chinese students. Four articles in ET&S were carefully chosen, including: 1) A Mobile Device and Online System with Contextual Familiarity and its Effects on English Learning on Campus. 2) Learning Cultures on the Move: Where are we heading? 3) Personalized Intelligent Mobile Learning System for Supporting Effective English Learning. 4) Ubiquitous English Learning System with Dynamic Personalized Guidance of Learning Portfolio.

Four articles from LLT were chosen, including: 1) Effects of short-term memory and content representation type on mobile language learning. 2) Emerging technologies mobile apps for language learning. 3) Mobile-assisted language learning: designing for your students. 4) Emerging technologies from memory palaces to spacing algorithms: approaches to second-language vocabulary learning. There are two articles carefully selected from TOJET, including: 1) Exploring college students' attitudes and self-efficacy of mobile learning. 2) Reexamining the effectiveness of vocabulary learning via mobile phones. There are two related articles in IETI according the criteria, including: 1) Mobile-device-supported strategy for Chinese reading comprehension. 2) Students' experiences and engagement with SMS for learning in Higher Education. A article from ILE is: Personalised context-aware ubiquitous learning system for supporting effective English vocabulary learning.

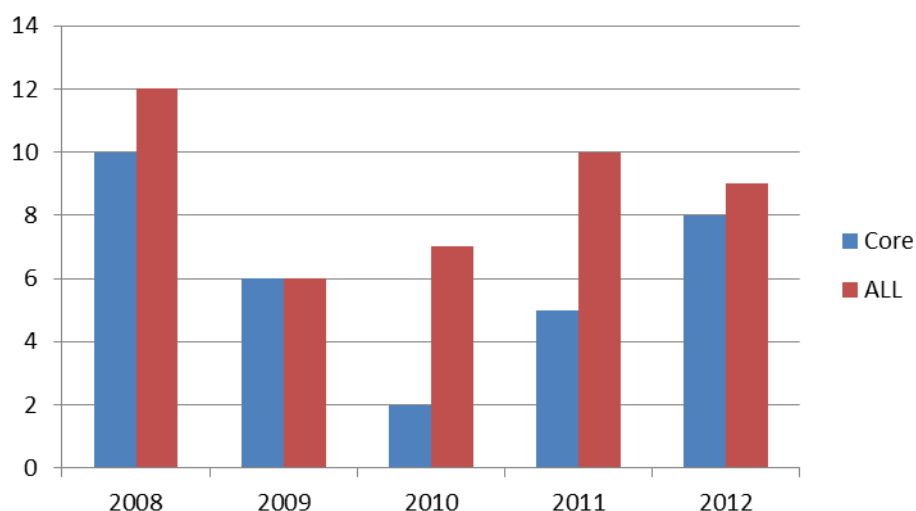


Figure 1. Number of MALL-related articles published from 2008 to 2012.

It was found that research samples in higher education were selected most (31). By dividing them into core and other journals, there are 22 research samples from college students in the core journal articles and there are 9 samples from college students in the non-core journal articles. Table 1 illustrates the sample group distribution of selected MALL articles in this study. We can find that the elementary school students (3), high school students (5), and teachers (1) are seldom used in MALL activities. Moreover, the sample groups selected by non-core journals are similar with the orders in core journals. Hence, we may claim one of the trends shaping the MALL studies from 2008 to 2012 is to exploit college student as convenience sample. On the other hand, the results implied that MALL researchers should pay more attention on applying MALL to elementary, high school, and others because it becomes popular for K-12 students using mobile devices to access digital information.

Table 1: Sample groups selected for MALL studies from 2008 to 2012.

Sample group	Elementary school students	High school students	College students	Teachers	Non-specified
Core	3	3	22	1	2
Non-core	0	2	9	0	2
Total	3	5	31	1	4

Table 2 shows that the language learning topics selected in the 44 articles. Since some MALL studies used their system on many language learning topics, they will be double counting. For instance, Liu & Chu (2000) published an article on Computers & Education about using ubiquitous games in an English listening and speaking course. That article will be counted both in listening skills and oral skills. After calculation, the first rank of language learning topics in MALL is vocabulary learning (16). The second and third rank of language learning topics in MALL is listening and reading comprehension (14, 13). It shows that using mobile device to learn vocabulary seems a successful application. From the results, using MALL on the speaking skill may be a potential research focus because voice/speech recognition will enter realm of mature technologies in the near future. Overall, the analysis results provide insights and patterns of MALL research trends for language instructors and researchers. Consequently, this study contributes to clarify the route of pass five years and indicate a feasible roadmap for MALL research.

Table 2: Language learning topics selected in MALL articles.

Language learning topics	Vocabulary	Listening skills	Speaking skills	Reading skills	Writing	non-specified
Core journals	13	12	7	7	3	4
Percentage	28%	26%	15%	15%	7%	9%
Non-core	3	2	2	6	1	3
Percentage	18%	12%	12%	35%	5%	18%
College samples	13	8	12	4	10	2
Percentage	27%	16%	25%	8%	20%	4%
Total	16	14	9	13	4	7

As Figure 2 illustrated, from 2008 to 2012, Taiwan scholars published in MALL related articles most, followed by American scholar published 7 and British scholar published 5. In core journals (2008-2012), 11 MALL articles were published by Taiwan scholars, followed by scholars from United States and United Kingdom. Taiwan scholars have published an astonishing number of articles in core journals, accounting for 30.6% of the total number of MALL articles in core journals. Moreover, it is interesting to know that more countries have contributed to the MALL core journals. The 44 articles come from 15 countries; scholars contributed only to core journals (i.e. no other MALL article in non-

core journals) located at the following 8 countries, including Norway, Australia, Hong Kong, Qatar, Netherlands, Turkish, Korea, Singapore.

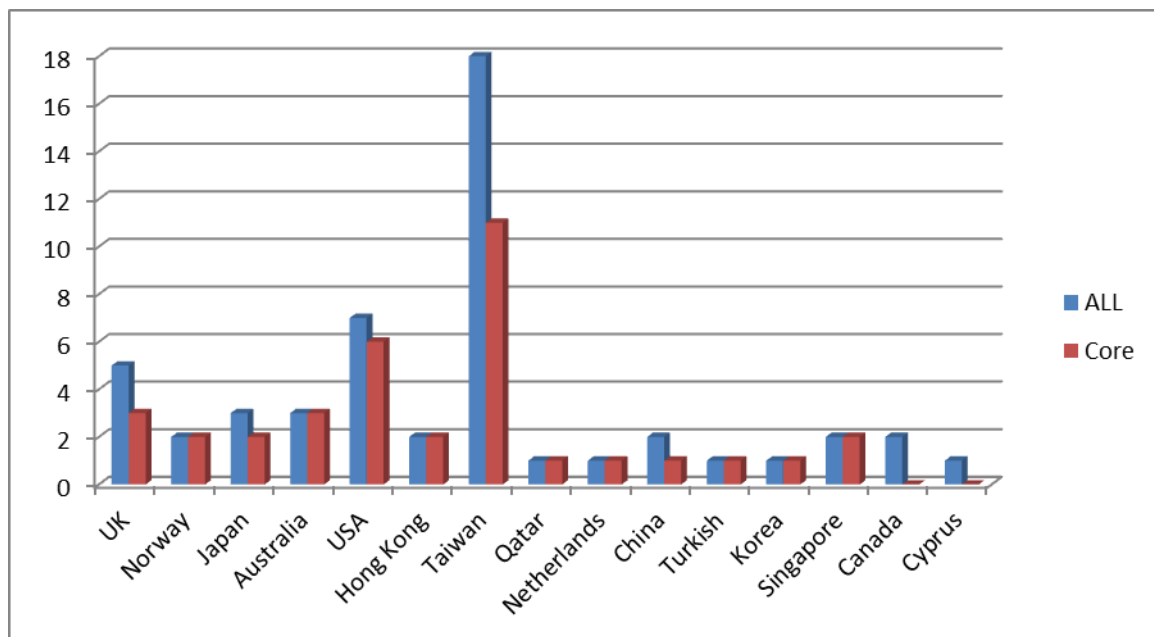


Figure 2. Major contributing countries of MALL from 2008 to 2012.

3. Conclusion

This paper analyzed the articles published on SSCI journals about mobile-assisted language learning from 2008 to 2012. Five journals are classified as the core journals because we can find more articles about MALL on them. The study shows the findings: (1) the number of articles published in core journals is more than 50% in all 44 selected papers, (2) Most research samples come from college students in higher education no matter the articles in core or non-core journals, (3) there are very few MALL studies which were focus on the learning topics about writing skills, (4) Scholars come from Taiwan contributing most MALL articles and most scholars worldwide pay attention on core journals. We hope that the results of the content analysis of most important MALL articles can be provided to the government, researchers, and instructors as the reference of planning future research and designing application development in the field of MALL.

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