THEORETICAL PERSPECTIVES AND PRACTICES OF MOBILE-ASSISTED LANGUAGE LEARNING AND MIND MAPPING IN THE TEACHING OF WRITING IN ESL CLASSROOMS

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Abstract: Mobile assisted language learning (MALL) is a highly popular multidisciplinary study field which increasingly attracts the attention of scholars around the world. Moreover, it has attracted the scholars who have realized the potential to apply mobile technologies to enhance learning. This paper explores the perspectives and practices of mobile-assisted language learning and mind mapping and their practices in teaching of writing in the ESL classrooms. Few aspects are covered like defining MALL, theoretical perspectives drawn from MALL, relating these to the practice of MALL and mind mapping in writing, pedagogical approaches used in MALL and issues faced in the ESL writing classrooms. Thus, it is showed that MALL can be incorporated into writing by using it with several writing approaches and techniques which counterparts the pedagogical advantages in mobile language learning contexts. The paper concludes with a brief discussion of the reviewed studies and it implicates that mobile learning and mind mapping has good prospects for teaching writing to ESL students.

Keywords: *MALL, mobile learning, mind mapping, teaching, writing*

INTRODUCTION

Mobile assisted language learning (MALL) has developed over the past decade as an advanced ground within its own right and it is gaining acceptance everywhere recently. There are various issues and studies on the usage of mobile learning for specific language skills like listening, speaking, reading, grammar and vocabulary (Guerrero et al., 2010; Suneetha, 2013; Lee & Kim, 2013).

Nevertheless, the studies on how to use mobile learning in teaching and learning writing skills are less likely being explored by the researchers.As an example, a study by Burston (2013) consists of 345 publications on MALL from 1994 to 2012 had stated only less than 5 percent used MALL to improve writing skills. This paper would like to explore the perspectives and practices of mobile-assisted language learning and mind mapping and their practices in teaching of writing in the ESL classrooms by covering some aspects of this issue. The main focus is to examine issues in teaching of writing for ESL students that need new approaches and techniques to teach writing skills in the classrooms. MALL is defined and theoretical perspectives and practices and also pedagogical issues in MALL and mind mapping activities are discussed to see the good prospects which can be integrated into writing strategies which complement the pedagogical advantages in mobile learning contexts for teaching writing to ESL students.

ISSUES IN THE TEACHING OF ESL WRITING

Writing in a second language (L2) and foreign language (FL) appears to be the most challenging language skill for language learners to acquire (Barkaoui, 2007). Learning to write is challenging especially for those writing in a second or a foreign language in academic contexts since they do not know enough about how to produce ideas for writing. Writing is defined to be a useful skill (Harmer, 2001). It means that people write to convey a message and to share information, thoughts and ideas with other people. Besides, it is a growing skill and is different from other language skills (Harris, 1969). However, it is perceived to be one of the most difficult skills to learn because many have difficulty to express their feelings, ideas, and persuade others (Bruning, 2005). As effective writing is considered to be a problem for English as a Foreign Language (EFL) learners, a need is felt to find out some ways of teaching that can help learners improve their writing performance**.**

Early second language writing processes and strategies researchers centered their attention on unskilled and skilled writers in undergraduate programs; however,more recent research has widened the scope to investigate professional L2 writers and those studying in the U.S graduate programs. In one of the studies, Leki (1995) reported on the academic literacy experiences of five English as a Second Language (ESL) students and the strategies they used to cope with the academic written assignments required by a U.S university. The qualitative study employed several sources of data including participant' interviews with the professors, class observations, and course written documents, such as class notes, exams, written drafts, final drafts with professors' comment and evaluations. Leki (1995) also discovered that her participants bought with them a variety of useful strategies that enabled them to cope with the demand of the written assignments. Another qualitative study conducted by Matsumoto (1995) aimed to describe the processes and strategies of EFL professionals had interviewed four Japanese EFL university professors (aged mid-30s and mid-40s)who teaching in Japan and formed research papers. In this study, they were interviewed in Japanese focusing on the research questions. They were allowed to provide any information related to their habits and behaviors regarding their academic writing. These interviews taken for an hour for per respondent, were

audio-recorded, and then the researcher listened and took detailed notes. He found that during planning, the subjects had selected the journals they wished to send their papers to, and had begun to write with specific audience in mind. All of the subjects used word processing for planning: generating and organizing ideas, creating a tentative title, making a rough outline(setting the introduction, discussion and conclusion), and they were also choosing references to be cited in each section. They might have used their first language (L1) while brainstorming and generating ideas. They continued to use word processing to compose first draft. Besides, they informed that they never used the translation strategies from L1 to L2. If they could not find a suitable word or phrase, they would mark that section to come back later and revise. For revision, they focused on content and used multiple-revision strategies both on computer and printouts which needed a delay between drafts. Hence, they tended to use delete-rather-than- add-strategies during this stage.

In L1 and L2 writing processes, the repondents followed the same process and usedthe same strategies. In other words, they transferred strategies they acquired in Japanese research paper writing to English research paper writing. All of them viewed the writing process as non-linear and dynamic and agreed that practice trained them to become effective writers. Whilst, they usedself-edit strategy in terms of editing. One of the research findings related to ESL students'writing processes and strategies suggeststhat skilled ESL writers spend more time planning, revising, and editing their work than the novice writers. Skilled writers consider their readers' expectations and do the revision at discourse level rather than making surface changes to the text. Additionally, skillful writers recognize the composing process at the constant interaction of thinking, writing and rewriting. The skillful writers go back and forth between planning, drafting, rereading and revising, while less skillful writers tend to outlook writing as a more linear process, going and from planning to writing to revising without going back to previous steps (Weigle, 2005). Second language is usually different from the first language strategically, rhetorically and linguistically and the written assignments of the L2 learnerd are syntactically and semantically loose lack coherence and all this due the difference of L2 from L1(Silva,1993). Hyland (2003) also mentioned that this difference affects the thinking faculty of the learners. As a result, the current study and issues not only concerns about some of the common writing problems among ESL students, but also suggests some potential approaches and techniques specifically in integrating mobile learning technology and using mind mapping into teaching and learning writing skills in ESL classrooms.

MOBILE-ASSISTED LANGUAGE LEARNING (MALL)

Recently, flexible e-learning become the primary mode for student access by using mobile learning environment. It is already forecast that in the near future the number of mobile communication devices such as mobile phones and handheld computers will exceed the number of personal computers. Pinkwart et. al (2004) defines e-learning as learning supported by digital electronic tools and media and by analogy. Many researchers and educators viewed mobile learning as the immediate successor of e-learning.

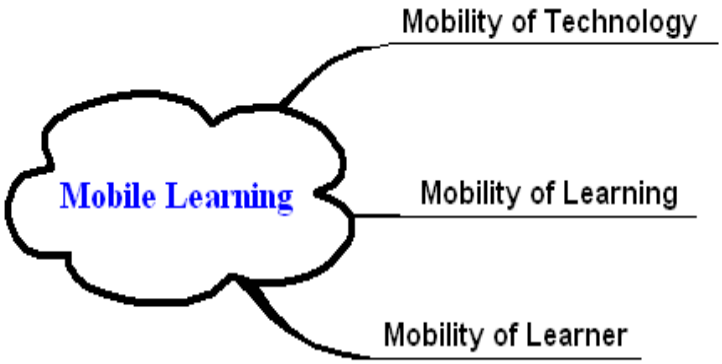

Figure 1. The Concepts of Mobile Learning (Kulska-Hulme, 2008)

The above figure is a graphic illustration of the three concepts of mobile learning that can convey a higher level of educational instruction. The concepts of mobility can be divided into three significant areas which are mobility of technology, mobility of learner and mobility of learning especially in higher education environment. The successful provision of higher educational instruction depends on the multilateral significance of the word mobility as it used in the context of higher education. Thus, these three concepts are interdependent and are correspondingly important in making mobile devices feasible as devices for the delivery of higher education instructional contents.

The design and development of mobile learning application is not an easy task which needs software programming knowledge, graphic design knowledge, instructional design knowledge, content localizing. According to Savill-Smith and Kent (2004), the use of mobile devices for learning can assist students' motivation, help organizational skills, encourage a sense of responsibility, support both independent and collaborative learning, act as reference tools, track students' progress and deliver assessment. Therefore, some educational institutes, universities or schools started to develop specific mobile applications for their students according to their curriculum and particular need. Many researchers have explored research in mobile learning since the last decade. This leads to the various developments of mobile learning applications. Kulkuska-Hulme et al. (2009) indicated that mobile learning can work, reaching places that other learning system cannot, it is best provided as part of a blend of learning activities, it offers a collection of pieces to be fitted to a learning need rather than a single solution, it is not simply a tool for delivering teaching material but can be used for learning through creativity, collaboration and communication. Some of mobile learning projects that have been established by researchers worldwide are 'bubble sort' and 'binary search' applications, the mobile DNA, AMULETS, MUSIS and Mobile Math. Recent researchers have supported mobile technology for education. Therefore, the adoption of technology in language learning has advanced from Computer Assisted Language Learning(CALL) to Mobile-assisted Language Learning (MALL). Mobile-assisted language learning (MALL) has been defined as the use of mobile technologies in language learning, especially in situations where device portability offers specific advantages (Kulska-Hulme,2013). For example, researchers expect learners to use their mobile phones, simply because

they own one (Hsu, Wang & Comac, 2008). Stockwell (2008) predicted mobile learning in the next generation because of the popularity of mobile devices among learners using technologies. If a mobile technology or device become popular, then it is worth exploring for possible application to language learning.

THEORITICAL PERSPECTIVES AND PRACTICES IN MALL

Creswell (1998) proposes that theories in the social sciences "provide an explanation, a predication, and a generalization about how the world operates either at the broad philosophical level or at the more concrete substantive level". Mobile technology and learning theories are closely associated. Traxler (2009) claims that the communities adhering around mobile learning may still feel the need for a theory of mobile learning as well as a definition. Naismith, Lonsdale, Vavoula and Sharples (2004) relate m-learning to more than one theory in order to solve this problem. Then, Naismith et.al (2004) takes an activity-centered perspective to draw on previous theories. They derived six broad theory-based of categories of activity from their findings; behaviorist, constructivist, situated, collaborative, informal and lifelong and learning and teaching support. All of these theories will be discussed in Table 1.

Table 1. An Activity-based Categorization of Mobile Learning Theories and Learning (Naismith et. al, 2004)

Theory	Perspective	Examples of Mobile Activities
Behaviorist Learning	Activities that promote learning as a change in observable actions	-Drill and feedback -Mobile response systems
Constructive Learning	Activities in which learners actively construct new ideas or concepts based on both their previous and current knowledge	-Multimedia(text, video, audio, animation, images) -Simulation
Situated Learning	Activities that promote learning within authentic context and culture	-problem and case-based learning -Natural science learning -Medical education -Multimedia museum -Mobile performance support system
Collaborative learning	Activities that promote learning through social interaction	-mobile computer supported collaborative learning -Medical education -Business administration -Nursing
Informal and Lifelong Learning	Activities that support learning outside a dedicated learning environment and formal curriculum	-supporting intentional and accidental learning episode -Social networks -Mobile forums

Learning and Teaching Support	Activities that assist in the coordination of learners and resources for learning activities	-personal organization -support for administrative duties

There is a diversity of perspectives, models and approaches used by various researchers for the purpose of understanding, explaining and theorizing about mobile learning activities. Furthermore, Kukulska-Hulme, Norris and Donohue (2015) have made a guide for teachers that propose arrangement with the concept of mobile pedagogy for English language teaching in the classroom and beyond the classroom, underlining that learners can take more duty for their own learning and that teachers play their part in permitting this. In this guide, it outlines the mobile learning outcomes may include some of the following:

- identifying gaps in knowledge
- developing a habit of reflection on language learned
- learning to notice (how language is used, how I use the language)
- connecting language users (more expert and less expert)
- using language for real purposes in real world contexts
- developing ability to respond to a context
- rehearsing, experimenting
- developing multiple perspectives
- learning to learn, developing autonomy
- developing digital (mobile) literacies

Chaka (2009) claimed that the future of language learning lies more with Mobile-assisted Language Learning (MALL) than Computer-assisted Language Learning (CALL). He further presented the distinctive characteristics of MALL which include mobility, ubiquity, connectivity, portability, handheldibility, convergence, multi-functionality, cross-platform blending, optionality, convenience: access, accessibility, availability, affordability, context awareness, personalization and flexibility. He trusts that these aspects give MALL both a viable and practical edge over CALL. Azar and Nasiri (2014) noted that mobile learning has also showed to be effective to enhance language skills even in writing based on several studies.Therefore, this paper further will examine the pedagogical issues of MALL in teaching of ESL writing.

PEDAGOGICAL ISSUES OF MALL IN TEACHING ESL WRITING

In writing skills, there are not many researchers who try to utilize mobile devices to examine its potential to developing this critical skill-writing skill, in a foreign language. According to Kulkulska-Hulme (2013), research on writing skills is uncommon in the literature of mobile assisted language learning. She further mentioned that the technical limitation of mobile devices such as the small keypad and small screens can present a barrier to extensive writing. Even though most of the informal writing activities like blogging, commenting and sending SMS are only popular activities done on mobile devices, there are some studies that found that academic writing activity also can be supported through this

mobile device. Oyinloye (2009) found that mobile phones can use for teaching writing skills, generate main ideas and organize them and it gives the opportunity of constant response.

There are some studies and issues of MALL which involve writing skills. One of the studies by Alsaleem (2013) used electronic journaling through WhatsApp in order to improve writing skills of 30 EFL undergraduate female students in Languages and Translation College at Allmam Mohamad Ibn Saud Islamic University in Saudi Arabia. Based on the results from the quasi-experimental study, it was found that students performed well with the discussions and enjoyed their dialogue journaling and the results also showed that the students' vocabulary and ideas have improved. Another study done by Lee and Kim (2013) used a mobile-based learning tool like the Product approach to improve writing skills of Korean students who are considered as EFL learners. The tools used are to check for grammatical mistakes and students think it is effective in improving their grammar at sentence level. The study carried out by Park and Slater (2014) explored how college-level ESL students are currently using their mobile devices for language learning and the attitudes and opinions of their instructors in relation to MALL. In this study, it was found that students observed writing tasks as the most necessary, with eight of these writing tasks ranked in their top 10. On the other hand, teachers ranked only two writing tasks within the top 10—writing informal and formal e-mails but ranked roughly half of the writing tasks in the lower 20 out of 40 overall. However, considering the relatively high percentage of teachers' responses, ranging from 75% to 95% in favour of target tasks for writing, it seems as though both teachers and students felt writing tasks were valuable.

Another research by Lubna (2015) to examineMALL constructivist practices in the ESL adult classroom in Egypt is capable of improving the students' existing knowledge and writing skills. From the survey done, it shows that teachers and students alike are attracted in using MALL and Padlet to develop up their language skills, especially, writing. Students' confidence and language proficiency also were enhanced by using MALL. Thus, the constructivist approach makes MALL an essential part of the learning process to promote learners' independence. Jai Shree et al. (2014) investigated if trainee teachers from 27 teacher training institutes in Malaysia whether they are ready to use mobile learning to improve their argumentative writing. This type of writing is very much alike to academic writing as it helps learners to become critical and reflective thinkers. Some of problems from this study like weak content, weak vocabulary and weak organization when the teachers write an argumentative text were identified. He also stated that learners cannot relate to their ideas in writing because they focus more on the product than the process of writing. Also, they are unable to seize the study skills needed as they have less group-based activities. This study suggested that argumentative writing skills can be developed through mobile learning as it helps learners to use it anywhere and anytime and it can help students to get more collaborative learning without worrying about place and time to improve their writing skills. Since this genre of writing helps learners to use critical thinking and insightful thinking, it is useful to know that the mind mapping technique also can also be one of the techniques to create more activities which connect mobile devices and mind mapping in writing classes. The next

section further will discuss about the prospects mobile learning and mind mapping for teaching writing to ESL students.

MIND MAPPING

Tony Buzan's mind mapping technique is one of effective visual note-taking strategy. Buzan (1974) suggests a spatial, non-linear approach to note–taking since it taps the mind's natural ability to work in an integrated, interlinked, complex manner. Mindmaps feature tree-like branches of information that display key concepts as well as relationships. However, mind maps are more global in the approach compared to linear concept maps. Students quickly create a "big picture" of their topic. According to Buzan (1993), mind maps attempt, visually and graphically, to portray a relationship of ideas or concepts. Tony Buzan's mind mapping technique is one of effective visual note-taking strategy. Buzan also suggests a spatial, non-linear approach to note –taking since it taps the mind's natural ability to work in an integrated, interlinked, complex manner. Mindmaps feature tree-like branches of information that display key concepts as well as relationships. Mindmaps are useful for several objectives. They help in organizing and remembering written verbal information, preparing to write essays questions, planning and evaluating projects and events, or making a visual record of a meeting in progress. Both students and teachers will find this strategy is useful. Buzan stresses the importance of color and graphic as well as a form to make the information memorable. Buzan, the inventor of mind maps claimed that mind mapping is vastly superior to traditional note-taking methods.

Kress and Van Leeuwen (2006) refer to representations such as mind maps as conceptual, rather than narrative, and classfying, rather than representing unfloding actions or a procedure. As mind maps are organized hierarchically around one central concept and generated by association they are less complex than concept maps which show interrelationships using a number of hub nodes linked by prepositions(Reed,2010). Studies confirm that children find producing a networked concept map challenging (Kinchin & Hay, 2000), so introducing a simpler representation mind-map but with similar goals seemed appropriate. Mind mapping is a pedagogic technique that supports a constructivist learning theory, especially in an Environmental Science class (Zhao, 2003). The results of the study suggest that mind mapping techniques are able to make the students' learning a process of sense-making and of adding and combining new information within existing knowledge structures, which has proven to be beneficial to the teaching of Environmental Science. Building from this, it is believed that mind mapping might be a useful instrument to teach Environmental Science to Arabic students. This was supported when one takes into consideration the proposition from Harper and Jong, which the use of graphic organizers, such as mind maps, help to reduce language demands on ELLs (Harper & Jong, 2004)

PEDAGOGICAL PROSPECTS OF MALL AND MIND MAPPING IN TEACHING OF WRITING IN ESL CLASSROOMS

Mind mapping and concept mapping has been applied as a pre-writing strategy. However, there has been limited number of research in this field. A case study of three ESL Japanese writers done by Ojima (2006) on the effect of

concept mapping as pre-task planning indicated that concept mapping as a pre-task planning task was influential in improving ESL learners writing skills, but in ways unique to individual experience, motivation and task conditions. Mind mapping comprises writing down a central idea and coming out with new and related ideas from the centre. The mind mapping strategy can be used to explore a wide range of topics in writing and also used in every kind of writing such as: narrative, descriptive, recount, persuasive and argumentative (Riswanto & Prandika, 2012). A recent study demonstrates that students who could express their learning with visual skills had a 40% higher retention rate than that of just verbal learners (Adam & Mowers, 2007).

Conventionally, mind maps were drawn with coloured pens and papers. Today, with presently available technology, it is possible to create mind map by using computer and mobile devices, which make it easy to make, review, revise and save mind maps. Furthermore, such computer technology provides us to create mind maps with more beautiful presentations. Online mind map is a productive way to engage students' interest and teach complex or multifaceted topics, from the web of characters in a novel, to the complex cultural challenges of a global economy, to the interplay of factors affecting climate change. There are various mind mapping software and mind map application tools such as Free Mind, Mindmeister, MindMapple, NovaMind, Edraw Mind Map and Free mind that allow us to use for brainstorming, organizing and presenting ideas. These mind mapping software and applications can be accessed through the computer and mobile devices. The map was augmented with mind mapping software that aids the mapping process. Budd (2004) identified that using image, icons, tags and other visuals as video films in the case of computerized mind mapping is useful as it supports to associate ideas in a more interesting way. Dominic (2014) pointed that one of the ways to create mind map is via mind mapping software which enables the manipulation, colourization and restructuring of the mind map and its nodes and branches and make the process of creating mind maps faster and easier. Creating mind maps on paper can consume too much time, material and effort than creating mind maps by hand. In addition, Al-Jarf (2009) used software mind mapping with experimental group but not with the control group to assess its effects on ESL students' writing achievement. The result showed that the experimental group scored significantly higher than the control group.

The results from the survey afterwards reported that the mind mapping tool encouraged creative thinking and they became faster at generating and organizing ideas for writing. This study also was reinforced by Liu(2011) who explored the effect of different computerized mind mapping treatments (no mapping, individual mapping and cooperative mapping on the performance of pre-writing phase of students with different writing proficiencies.To recapitulate, mind mapping gives many benefits to their writing like it helps them to organize ideas before they move on writing, create more ideas in their writing as they can give many examples based on it, allow them to list their points and they can easily elaborate their points and they can develop their ideas more easily. Therefore, mind mapping technique would be an effective tool to help students planning and organizing their writing by encouraging students to gain a comprehensive or in-depth understanding of the writing topics.

CONCLUSION

Based on the discussions and descriptions set out in the paper, it can be deduced that the potential of mobile learning and mind mapping in teaching ESL writing is promising. In enhancing the 21st learning skills via mobile technology, researchers and educators are encouraged to use mobile learning technology specifically MALL to help in improving ESL students writing skills. Therefore, educators should recognize that technological innovations will become a culture in learning and it will begin with the educators and the pedagogical processes they use in learning (Yelland, Cope & Kalantzis, 2008). To this end, it is obviously possible to integrate mobile learning and mind mapping technique into writing skills by combining the different writing approaches so that students can enhance their learning process of writing skills in the classroom.

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