# MOBILE-ASSISTED LANGUAGE LEARNING:
# A SELECTED ANNOTATED BIBLIOGRAPHY
# OF IMPLEMENTATION STUDIES 1994–2012

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Over the past 20 years, project implementation descriptions have accounted for the majority of Mobile-Assisted Language Learning (MALL) publications, some 345 in total.

Those interested in MALL applications thus need to read widely to acquire an adequate perspective of MALL implementations. The intent of this bibliography is to facilitate this task by providing a comprehensive historical background of MALL applications from the first published work in 1994 to the end of 2012.

To enhance the information contained in these references, over 90% of the entries are complemented by a brief (~80 word) summary. To the extent that the publication provides such information, each annotation identifies the country of origin of the study, native language (L1) and/or the second or foreign language (L2) involved, the mobile technology used, the learning area(s) targeted, the type of learners, their numbers, the duration of the study, and a summary of the results (i.e., learning outcomes and survey opinions). Since nearly 60% of MALL implementation studies appear outside of professional journals, in conference proceedings, project reports, academic dissertations, and so forth, locating copies of these publications poses a major challenge in itself. For this reason, where possible, links are included to copies of the works cited.

## INTRODUCTION

In a very broad sense, for as long as formal instruction has existed there has been an interest in freeing learning from the constraints of time and place. Clay tablets, scrolls, then much later printed books were the first technologies employed to meet this challenge. In the latter part of the 20th century desktop computers, laptops, netbooks, and web-based applications greatly facilitated flexible access to language learning materials. The advent of hand-held computer-based devices gave rise to Mobile-Assisted Language Learning (MALL) as we know it today. Since the mid-1990s, MALL has focused on the exploitation of five mobile technologies: pocket electronic dictionaries, personal digital assistants (PDAs), mobile phones, MP3 players, and most recently ultra-portable tablet PCs.

Though a young field, some 575 works relating to MALL have been published over the past two decades. The topics covered are varied and include considerations of technical specifications, mobile device ownership, pedagogical design, learning theory, user attitudes, motivational effects, institutional infrastructure, and teacher training, among others. By far, the most frequently occurring type of MALL publications are project implementation descriptions. Based on the references contained in the works

themselves, they account for nearly 350 of the total, some 60%. These references are the focus of this bibliography.

MALL implementation studies run the gamut from hypothetical design specifications, through one-off lab and classroom experiments, in-course pilot testing, and multiple semester trialing. Publication sources are likewise diverse, with only about 10% of MALL implementation studies emanating from established CALL journals. The single greatest source of MALL publications—over 45%—is to be found in conference proceedings and, here again, in areas outside of CALL such as distance learning, mobile learning, educational technology, multimedia, telecommunications, lexicography, and so forth. The journals in which MALL publications appear are similarly disparate. Other publication sources include project reports as well as a few masters and doctoral dissertations.

Those interested in MALL applications, whether for research purposes or as a reference point for their own practical development efforts, thus need to read widely to acquire an adequate perspective of MALL implementations. The intent of this bibliography is to facilitate this task by providing a comprehensive historical background of MALL applications from the first published work in 1994 to the end of 2012.[1] While every effort has been made to make this bibliography as complete as possible, it is of course possible that some references may have been missed, especially from conference proceedings and non-English sources. Notwithstanding, overall, the coverage is very broad.

To enhance the information contained in these references, and thus to guide their acquisition, over 90% of the entries are complemented by a brief (~80 word) summary. To the extent that the publication provides such information, each annotation identifies the country of origin of the study, native language (L1) and/or the second or foreign language (L2) involved, the mobile technology used, the learning area(s) targeted, the type of learners, their numbers, the duration of the study, and a summary of the results (i.e., learning outcomes and survey opinions). Although it was not possible to consult and provide annotations for the remaining 10%, their references are included for the sake of completeness and in the hopes that other researchers may be able to secure them if interested. Since nearly 60% of MALL implementation studies appear outside of professional journals, in conference proceedings, project reports, academic dissertations, and so forth, locating copies of these publications poses a major challenge in itself. For this reason, where possible, links are included to copies of the works cited. While many of these may be downloaded without cost, the majority require an institutional subscription or have to be individually purchased.

## ANNOTATED BIBLIOGRAPHY

Abdous, M., Camarena, M., & Facer, B. (2009). MALL technology: Use of academic podcasting in the foreign language classroom. *RECALL Journal, 21*(1), 76–95. Retrievable from http://journals.cambridge.org

> This American study evaluated the benefits of integrating podcasts into the L2 curriculum compared to using them as a supplemental/review tool in eight university courses over a semester. Based on responses from 113 students, the study's findings indicate that when instructors integrated podcasts into the curriculum for instructional purposes (e.g., for student video presentations, for student paired interviews, in roundtable discussions), students were more likely to use this technology and to report academic benefits.

Abdous, M., Facer, B., & Yen, C-J. (2012). Academic effectiveness of podcasting: A comparative study of integrated versus supplemental use of podcasting in second language classes. *Computers & Education*, *58*, 43–52. Retrievable from http://www.sciencedirect.com

This American paper extends a study of the effects of integrated (PIC) versus supplemental (PSM) podcast usage in university L2 courses first reported in Abdous, Camarena and Facer (2009). Based on final grades over four years with 337 students of Chinese, French, German, Italian, Japanese, and Spanish, the learning outcomes of PIC students were inconclusive. However, a strong effect was found with the results of PSM students, particularly in upper level courses. Only about 28% of students used MP3 players to listen to course materials.

Alemi, M., Sarab, M., & Lari, Z. (2012). Successful learning of academic word list via MALL: Mobile Assisted Language Learning. *International Education Studies*, *5*(6), 99–109. Retrievable from http://www.ccsenet.org

This Iranian paper describes a 16-week study of a mobile phone-based SMS vocabulary program for L2 English. The trial involved 28 university students who received 10 words and example sentences twice a week via SMS. Their learning of 320 head words was compared to that of a control group of 17 who studied the same words using a dictionary. All students improved on a post-test, but with no significant difference between the groups. However, the SMS group showed significantly better vocabulary retention on a delayed post-test.

Al-Jarf, R. (2012). Mobile technology and student autonomy in oral skill acquisition. In J. Díaz-Vera (Ed.), *Left to my own devices: Learner autonomy and mobile-assisted language learning innovation and leadership in English language teaching* (pp. 105–130). Bingley, UK: Emerald Group. Retrievable from http://dx.doi.org

This study from Saudi Arabia describes the effects of using self-study MP3 L2 English lessons (TalkEnglish) on oral skill development. Compared to a control group of 44 university students who received only classroom instruction, an experimental group of 46 used TalkEnglish for 12 weeks as a course supplement. The program was accessible via mobile phone, MP3 player, or computer. Students in the experimental group outperformed the controls in listening and speaking, which was attributed to the extra practice they received through TalkEnglish.

Allan, S. (2007). Podcasts and embedded audio to support language learning. *Warwick Interactions Journal, 30*(2), n.pag.

This British report describes a pilot project that investigated the use of MP3 players to enhance the study of L2 German written texts with first and second year university students. This involved creating for the course website downloadable podcasts of vocabulary lists for rote memorization and pronunciation practice as well as 28 poems by Goethe. The poetry resource in particular was very positively received and extensively used, though the majority of students did so directly from PCs rather than downloading to MP3 players.

Ally, M., Schafer, S., Cheung, B., McGreal, R., & Tin, T. (2007). Use of mobile learning technology to train ESL adults. In: mlearn Melbourne 2007: *Making the Connection: Conference Proceedings* (pp. 7–12).

This Canadian paper describes the use of a tutorial program accessible via web-enabled mobile devices to teach L2 English remedial grammar to adult education learners. The content of the program included 86 lessons and related exercises (true/false, multiple choice drop downs, changing the order of sentences, matching). The system was tested via

mobile phones by about 100 adult learners, who demonstrated slight improvements and expressed positive attitudes about using a mobile phone to learn English grammar.

Ally, M., & Tin, T. (2009). Mobile phone to improve English pronunciation. *Proceedings of mlearn 2009, 8th World Conference on Mobile and Contextual Learning* (pp. 171–173). Orlando, Florida, USA.

Ally, M., Tin, T., & Woodburn, T. (2011). Mobile learning: Delivering French using mobile devices. *Proceedings 10th World Conference on Mobile and Contextual Learning* (*mLearn*) (p. 448). Beijing, China: Beijing Normal University. Retrievable from http://mlearn.bnu.edu.cn/source/Conference_Procedings.pdf

> This Canadian paper investigated the use of iPhones to access web-based grammar and vocabulary lessons for elementary level L2 French. The content consisted of five workplace related lessons, which were trialed by 22 university volunteers during one three-hour session. Participants took an 8-item, pre and post, multiple-choice test to measure learning gains. Overall, students who participated in this study found the format and content of the lessons useful and wanted to take more lessons with this device.

Al-Shehri, S. (2011a). Context in our pockets: Mobile phones and social networking as tools of contextualising language learning. *Proceedings 10th World Conference on Mobile and Contextual Learning (mLearn)* (pp. 278–286). Beijing, China: Beijing Normal University. Retrievable from http://mlearn.bnu.edu.cn/source/Conference_Procedings.pdf

> This conference paper describes a 16-week Saudi Arabian study that used mobile phones linked to Facebook to create an L2 English community of learners. A group of 33 university students uploaded photos, video clips, or texts from their personal out-of-class contexts to Facebook using their own mobile phones and reflected on each other's uploaded materials using their mobile phones as well. Overall, students appreciated the implementation of mobile phones and Facebook to connect in-class activities with their outside world.

Al-Shehri, S. (2011b). Mobile social networking in language learning: A transformational tool. *International Journal of Mobile Learning and Organisation*, *5*(3–4), 345–359. Retrievable from http://inderscience.metapress.com

> This article is the published version of Al-Shehri (2011a). It describes a Saudi Arabian project that investigated the potential of mobile phone-based social networking to create an effective L2 English learning environment that promoted student–centeredness and collaborative language learning. The study concluded that mobile social networking played a major transformational role and fostered the shift from traditional teacher–directed instruction to more collaborative, enjoyable, and student–centered learning.

Amemiya, S., Hasegawa, K-I., Kaneko, K., Miyakoda, H., & Tsukahara, W. (2007). Long-term memory of foreign-word learning by short movies for iPods. *Proceedings of the 7th IEEE International conference on advanced learning technologies* (pp. 561–563). Los Alamitos, CA: IEEE Computer Society. Retrievable from http://ieeexplore.ieee.org

> This Japanese paper is one of several that describe the use of vodcasts to support the rote learning of L2/L1 word pairs. Each vodcast consists of a 5-second still or moving image that includes the pronunciation of the L2 word with its spelling and L1 equivalent displayed as subtitles. A PC application (MultiPod) transfers vodcasts to iTunes for downloading to iPods. Ten university students trialed the system and took a vocabulary

test two months later, which demonstrated that the system was effective for the learning of foreign words.

Amer, M. (2010). Idiomobile for learners of English: A study of learners' usage of a mobile learning application for learning idioms and collocations. PhD dissertation, Indiana University of Pennsylvania. Retrievable from http://dspace.lib.iup.edu

> This American PhD dissertation explored how a group of 45 L2 English university students used a mobile application (Idiomobile) containing a game and quizzes which they could customize to learn idiomatic expressions and collocations. Idiomobile was trialed on mobile phones for a period of one week, for a total average usage of 7–14 hours. The more learners used the program, the higher they scored on the quizzes in the application. All learners praised Idiomobile for allowing them to learn idiomatic expressions and collocations.

Anaraki, F. (2009). A Flash-based mobile learning system for learning English as a second language. *Proceedings International Conference on Computer Engineering and Technology. Singapore* (pp. 400–404). Retrievable from http://www.journal.au.edu

> This Thai paper describes the design and development of a suite of 12 mobile flash-based multimedia lessons for the learning of L2 English. The system was tested for four weeks by 76 university students, who downloaded to their smartphones or PDAs three lessons a week for independent study. Post-testing confirmed significant improvement by all students. Participants felt the most significant impact of mobile English learning had been on their pronunciation followed by listening skills and conversation.

Anderson, T., Hwang, W-Y., & Hsieh C-H. (2008). A study of a mobile collaborative learning system for Chinese language learning. *Proceedings of International Conference on Computers in Education* (pp. 217–222). Taipei, Taiwan. Retrievable from http://ncu.academia.edu

> This Taiwanese paper describes the design of a prototype system (StudentPartner) intended to support the collaborative out-of-class learning of L2 Chinese. The system operates with GPS-enabled PDAs combined with a campus map linked to a database server to provide location-aware information, audio recordings of context-appropriate common phrases, and the storage and sharing of learner-produced messages, notes, images and voice recordings. Learners can retrieve their own and each other's data and notes anytime, anywhere.

Attewell, J. (2005). Mobile technologies and learning: A technology update and m-learning project summary. London, UK: Learning Skills Development Agency. Retrievable from http://www.m-learning.org

> This British report describes three EU funded m-learning projects that used smartphones (i.e., a PDA with telephone connectivity) to promote the learning of 16–24 year olds not enrolled in full-time education. One SMS-based elementary L2 Italian course was trialed in Italy with two groups, one of foreigners ($n = 20$) and the other of Italian dialect speakers $n = 30$). A course using MMS/SMS-based tutorials and quizzes developed in the UK to support English L1 literacy and numeracy was also used for L2 English in Sweden. Favorable results are reported, but they are only anecdotal.

Azabdaftari, B., & Mozaheb, M. (2012). Comparing vocabulary learning of EFL learners by using two different strategies: Mobile learning vs. flashcards. The Eurocall Review, *20*(2), 47–59. Retrievable from http://www.eurocall-languages.org/review/20_2/index.html

> This Iranian study describes the results of a seven-week study that compared the L2 English vocabulary acquisition of 80 university students. Half of these formed an experimental group that used a phone-based vocabulary program (Spaced Repetition System) complemented by SMS exchanges with the instructor and Internet resources. The control group used printed flashcards containing English words with pronunciation on one side and corresponding L1/L2 equivalents on the other. The experimental group significantly outscored the control on a 20 item multiple-choice post-test.

Baleghizadeh, S., & Oladrostam, E. (2010). The effect of Mobile Assisted Language Learning (MALL) on grammatical accuracy of EFL students. *MEXTESOL Journal, 34*(2), 77–86. Retrievable from http://www.efltasks.org

> This Iranian article investigates the effect of using mobile phones to record L2 English class discussions intended to elicit grammatical forms under review. For six classes, 20 university students made 2–3 minute recordings of their speech on their mobile phones and as an out-of-class assignment analyzed their spoken mistakes and commented on them in a subsequent session. These students demonstrated significantly better grammatical accuracy compared to a control group of the same size that did not engage in these review activities.

Başoğlu, E., & Akdemir, O. (2010). A comparison of undergraduate students' English vocabulary learning: Using mobile phones and flash cards. *Turkish Online Journal of Educational Technology*, *9*(3), 1–7. Retrievable from http://www.tojet.net

> This Turkish paper describes a six-week pilot test that investigated the effectiveness for L2 English vocabulary acquisition of a mobile phone-based flashcard application (ECTACO) used by 30 university students compared to its printed counterpart used by a control group of the same size. Post-testing confirmed that using the flashcards on mobile phones was more effective in improving students' vocabulary learning than using flashcards on paper. Mobile phone users also found learning English vocabulary this way effective and entertaining.

Begum, R. (2011). Prospect for cell phones as instructional tools in the EFL classroom: A case study of Jahangirnagar University, Bangladesh. *English Language Teaching*, *4*(1), 105–115. Published by *Canadian Center of Science and Education.* Retrievable from http://www.ccsenet.org/journal

> The aim of this study was to investigate the potential of mobile phone SMS use as a language learning tool in the L2 English classrooms of Bangladesh. Over five weekly periods of two hours, 100 Bangladeshi university students were sent a lesson on English preposition usage, received a multiple-choice quiz, answered it, and received teacher feedback, all via SMS. While the potential SMS-based instruction was demonstrated, a number of problems were also revealed: cost, small screen size, text inputting difficulties, and lack of teacher training.

Belanger, Y. (2005). *Duke University iPod first year experience final evaluation report*. Center for Instructional Technology. Duke University. Retrievable from http://cit.duke.edu

This American report describes the experimental trials in a range of disciplines that resulted from the free distribution of iPods to 1600 first year students at Duke University. In foreign languages, the iPods functioned as a complementary resource. Spanish and Turkish courses used them for audio listening. The devices were also used for recording student audio diaries in Spanish and for native-speaker interviews in German. Overall, student and faculty reactions were positive, but recording quality was judged inadequate for language learning.

Bo-Kristensen, M., Ankerstjerne, N., Neutzsky-Wulff, C., & Schelde, H. (2009). Mobile city and language guides: New links between formal and informal learning environments. *Electronic Journal of E-*learning, *7*(2), 85–92. Retrievable from http://www.ejel.org

This Danish paper describes the concept underlying two geotagging applications (Mobile City and Language Guides) that allow high school and university students to create links between formal foreign language instruction and informal learning through location-based, authentic materials. Using their mobile phones, students or teachers can support language learning tasks via the uploading or downloading of Google map geotag information (e.g., photos, audio, text, movies, links, vocabulary), which serve as complements to class-based activities.

Bollen, L., Eimler, S., & Hoppe, H. (2004a). SMS-based discussions: Technology enhanced collaboration for a literature course. *Proceedings of International Workshop on Wireless and Mobile Technologies in Education* (pp. 209–210). National Central University, Taiwan. Retrievable from http://ieeexplore.ieee.org

This German study describes the design of a prototype system that uses web-enabled PDAs to allow native-speaker high school students to discuss German literary texts via emulated SMS in a classroom environment. Only a general outline is given.

Bollen, L., Eimler, S., & Hoppe, H. (2004b). The use of mobile computing to support SMS dialogues and classroom discussions in a literature course. *Proceedings of the 4th IEEE International Conference on Advanced Learning Technologies, ICALT 2004*. Los Alamitos, CA: IEEE Computer Society. Retrievable from http://www.collide.info

This German study describes the design of a prototype system that uses web-enabled PDAs to allow native-speaker high school students to discuss German literary texts via emulated SMS in a classroom environment. Technical details are given, but no actual student usage is reported.

Borau, K., Ullrich, C., Feng, J., & Shen, R. (2009). Microblogging for language learning: Using Twitter to train communicative and cultural competence. In M. Spaniol, Q. Li, R. Klamma, & R. Lau (Eds.), *Advances in web based learning – ICWL 2009* (Vol. 5686, pp. 78–87). Heidelberg: Springer-Verlag Berlin. Retrievable from http://www.carstenullrich.net/pubs/Borau09Microblogging.pdf

This Chinese paper describes the use of Twitter with 82 L2 English college students over a period of seven weeks. The intent of the project was to evaluate the effect of sending and receiving short informal messages upon the communicative and cultural competence of language learners. Using both stationary computers and mobile devices, students generated nearly 800 tweets per week. The study concluded that the out-of-class use of Twitter provided an effective means of fostering communicative and culture competence without the need for face-to-face contact.

Boticki, I., Wong, L-H., & Looi, C-K. (2011). Designing content-independent mobile learning technology: Learning fractions and Chinese language. *Proceedings 10th World Conference on Mobile and Contextual Learning* (*mLearn*) (pp. 130–137). Beijing, China: Beijing Normal University. Retrievable from http://mlearn.bnu.edu.cn

> This paper reports on a Singapore-based collaborative learning study involving mathematics and Chinese.  In the language portion of the study, 37 L1 Chinese primary school children played a Chinese character formation game (Chinese P-P) alternatively using a smartphone compared to a card-based version. Statistically significant increases in Chinese learning were observed in post-testing for the users of the smartphone. The user interface of the mobile device application, however, required modification to better support collaborative interaction among users.

Brown, E. (Ed.) (2001). Mobile learning explorations at the Stanford Learning Lab. Speaking of Computers, 55. Stanford, CA: Board of Trustees of the Leland Stanford Junior University. Retrievable from http://cgi.stanford.edu

> This is the first published American report about the use of mobile phones for foreign language teaching. It describes experimental Spanish L2 vocabulary tutorial programs at Stanford University which utilized voice, voice recognition, email, quizzes, and translations as well as access to online tutors. While students reacted positively to the novelty, serious technical problems (screen size, audio quality, network connections) adversely affected the project.

Brown, M. (2012). Tablet computing to cultivate Japanese EFL digital literacy: A study on video production in the classroom. In J. Colpaert, A. Aerts, W-C. Vivian Wu, & Y-C. Joni Chao, (Eds.), *The Medium Matters* (Proceedings 15th International CALL Conference) (p. 48). Retrievable from http://www.google.com

> This Japanese paper investigated the potential advantages and disadvantages of the use of tablet devices (specifically the iPad 2) in L2 English classrooms for video production tasks. It sought to determine whether student participation in such tasks assisted in the development of L2 digital literacy. The study also investigated students' perceptions when they were using the tablet devices to see whether or not they could be successful tools in the design of a constructivist learning environment.

Brown, M., Castellano, J., Hughes, E., & Worth, A. (2012). Integration of iPads in a Japanese university's freshman curriculum. *Proceedings of the JALT CALL Conference 2012*. Retrievable from http://journal.jaltcall.org

> This Japanese paper describes the pilot testing of five iPads with 96 English L2 university students. Four classes of 23–25 students used the devices in a technologically enhanced classroom to create of a PowerPoint type presentation, retrieve web-based multimedia resources, make a voice recording, and access a digital class handout. The results indicated that the iPad offered benefits such as speed, video viewing, and versatility but also showed that its usefulness depended on the task and application software familiarity and capability.

Browne, C., & Culligan, B. (2008). Combining technology and IRT testing to build student knowledge of high frequency vocabulary. *The JALT CALL Journal*, *4*(2), 3–16. Retrievable from http://www.jaltcall.org

> This Japanese paper describes a suite of L2 English language learning applications

accessible via PCs and mobile phones that use an Item Response Theory algorithm (V-Check) to assess which specific high frequency words still need to be taught. The program (Word Engine) then teaches these words via a system of flashcards and learning games focused on developing automaticity of word knowledge through spaced repetition, extensive graded reading, and listening materials. The system also includes a course management program (V-Admin).

Burston, J. (2012). Mobile language learning: Getting IT to work. In J. Burston, F. Doa, & D. Tsagari, (Eds.), *Foreign language instructional technology* (pp. 81–99). Nicosia, Cyprus: University of Nicosia Press.

> This paper from Cyprus describes a European mobile phone-based project (MobLang) designed to teach basic L2 communicative skills in Albanian, Basque, Irish, Greek, and Turkish to speakers of majority community languages (Spanish, English, Turkish and Greek, respectively). MobLang lessons focus on the acquisition of essential formulaic expressions within an entirely off-line media-rich mobile environment. The system was pilot tested by 85 volunteers representing all the L1/L2 language pairs and received very positive evaluations.

Butgereit, L., & Botha, A. (2009). Hadeda: The noisy way to practice spelling vocabulary using a cell phone. In P. Cunningham & M. Cunningham (Eds.) *IST-Africa 2009 Conference Proceedings* (pp. 1–7). Retrievable from http://researchspace.csir.co.za

> This South African paper describes a language learning application (Hadeda) designed to encourage primary and secondary school pupils to practice spelling or memorize L2 English words using their mobile phone. Via a mobile accessible web-based application, teachers and parents prepare English spelling and English/Afrikaans vocabulary lists from which Hadeda, using multiple text-to-speech engines, generates audio vocabulary exercises. The system was pilot tested in a private school with pupils from grades four through seven.

Butgereit, L., Botha, A., & van Niekerk, D. (2010). Using cell phones to improve language skills: The Hadeda Project. *E-Infrastructures and E-Services on Developing Countries Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering, 38*, 11–19. Retrievable from http://researchspace.csir.co.za

> This South African paper describes an Internet-based application (Hadeda) which lets teachers and parents of school children use mobile phones to create spelling lists (see Butgereit and Botha (2009)). Using speech synthesis technology, the system generates audio clips and packages them into an application which can be downloaded to mobile phones or accessed via the Internet. Learners listen to the words then type them in for verification. An L2 English and an L2 German version were pilot tested, but no learning results are reported.

Callan, S. (1994). Can the use of hand-held personal computers assist transition students to produce written work of excellent quality*?* Wentworth County Board of Education, Ontario, Canada.

> This Canadian report is the first published MALL study. It describes the effects of word processing with PDAs, compared to handwritten texts, to improve the English writing skills of 14-year old native speakers. The results, based on student surveys, claim better organization, improved essay writing with spell-check and grammar-check features, and greater flexibility due to the mobility of the PDAs.

Cavus, N., & Ibrahim, D. (2008). MOLT: A mobile learning tool that makes learning new technical English language words enjoyable. *International Journal of Interactive Mobile Technologies*, *2*(4), 38–42. Retrievable from http://online-journals.org

> This paper from Northern Cyprus describes the experimental use of mobile phone SMS to teach technical L2 English vocabulary to 45 computer science university students. A web-based application (MOLT) was used to send SMS word pairs every half-hour daily between 9A.M. and 5P.M. A total of 48 word pairs were sent three times for nine days. Responses to a student survey indicated very high approval of the system. All participants expressed enjoyment of learning out of class with the help of their mobile phones.

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. Retrievable from http://web.ebscohost.com/ehost/pdfviewer/pdfviewer?vid=3&sid=656c7cfa-f9b8-433b-9054-92e0ed7e627b%40sessionmgr110&hid=117

> This paper from Northern Cyprus is an extended version of Cavus and Ibrahim (2008). It adds a brief literature review and a discussion of theoretical framework, but is otherwise the same.

Chan, W-M., Chen, I., & Döpel, M. (2008). *Learning on the move: Applying podcasting technologies to foreign language learning*. Paper presented at CLaSIC 2008, Singapore, Singapore.

Chan, W-M., Chen, I., & Döpel, M. (2011). Podcasting in foreign language learning: Insights for podcast design from a developmental research project. In M. Levy et al. (Eds.), *WorldCALL: International Perspectives on computer-assisted language learning* (pp. 19–37). New York, NY: Routledge.

> This paper from Singapore explores the use of podcasting to support the learning of L2 German. A total of 14 podcast lessons were prepared and made available to 225 university students on a weekly basis over a 13 week period. Lessons included listening comprehension and grammar, as well as country and culture information. Only 6% of students accessed podcasts exclusively via MP3 players, with 70% preferring to use only a PC. Overall, students found the lessons useful, especially for test preparation.

Chan, W-M., Chi, S-W., Chin, K-N., & Lin, C-Y. (2011). Students' perceptions of and attitudes towards podcast-based learning: A comparison of two language podcast projects. *Electronic Journal of Foreign Language Teaching*, *8*(Suppl. 1), 312–335. Retrievable from http://e-flt.nus.edu.sg

> This paper from a Singapore university describes two 10-week long podcast projects with 120 L2 Chinese and 61 L2 Korean students who completed questionnaires and participated in semi-structured interviews to ascertain their perceptions of the podcasts' quality and usefulness, and their attitudes towards podcast-based learning. Statistically significant differences were found in the perceptions and attitudes of the two groups related to motivation, expectations, teacher encouragement and experience with mobile learning.

Chang, C-K., & Hsu, C-K. (2011). A mobile-assisted synchronously collaborative translation-annotation system for English as a foreign language (EFL) reading comprehension. *Computer Assisted Language Learning*, *24*(2), 155–180. Retrievable from http://www.tandfonline.com

This Taiwanese paper is a follow-up of the study first reported in Hsu, He and Chang (2009). It describes the effectiveness of a PDA/web-based translation/annotation application on the L2 English reading comprehension of 43 university students who used it individually and collaboratively for extensive in-class reading. Testing revealed that groups of 2–4 achieved significantly higher levels of comprehension than individual students or groups of five. More than 80% of the users considered the system useful and easy to use for individual reading.

Chen, C-H., & Chou, H-W. (2007). Location-aware technology in Chinese language learning. *IADIS International Conference Mobile Learning* (pp. 189–193).

This Taiwanese study reports on the design and prototype testing of a PDA-based system (CLLS) that uses RFID tags linked via a web-based server to audio and text that provide location specific conversations to support the learning of L2 Chinese by overseas students using public transportation in Taipei. Ten foreign university students tested the system for 20 minutes in a classroom which simulated six transportation stations. The experiment showed that learners were satisfied both with the reaction time of RFID and the content transmitted.

Chen, C-M., & Chung, C-J. (2008). Personalized mobile English vocabulary learning system based on item response theory and learning memory cycle. *Computers & Education*, *51*(2), 624–645. Retrievable from http://www.sciencedirect.com

This Taiwanese paper describes the design of an L2 English vocabulary learning system which is based upon Item Response Theory algorithms and a learning memory cycle. It operates via PDAs linked to a remote management server, client mobile learning system and three database agents: one that recommends vocabulary, one that generates tests, and one that assesses performance. The system was trialed by 15 university students for five weeks and the results revealed significant, though modest (~5%),  enhancement of vocabulary abilities and learning interests.

Chen, C-M., & Hsu, S-H. (2008). Personalized intelligent mobile learning system for supportive effective English learning. *Educational Technology and Society, 11*(3), 153–180. Retrievable from http://www.ifets.info

This Taiwanese article describes the design of a prototype web-enabled PDA-based reading/vocabulary system (PIMS) that was trialed by 15 L2 English university students for five weeks. Using a fuzzy Item Response Theory algorithm that determines users' reading abilities, PIMS recommends English news articles to learners and automatically identifies unfamiliar words for study. Test results confirmed that the system could recommend appropriate news articles to individual learners regardless of their initial reading abilities.

Chen, C-M., & Li, Y-L. (2010). Personalized context-aware ubiquitous learning system for supporting effective English vocabulary learning. *Interactive Learning Environments*, *18*(4), 341–364. Retrievable from http://www.tandfonline.com

This Taiwanese article describes the design and prototype testing of the PDA/WLAN-based context-aware L2 English vocabulary learning system (PCULS) outlined Chen et al. (2007). PCULS was trialed for two weeks in 12 locations around a high school by 36 tenth-grade students, half of which studied English/Chinese word pairs with the system and half independently of it. 94% of PCULS users showed vocabulary gains compared to

only 67% for non-users. 72% of users expressed a preference for the context-aware
learning support.

Chen, C-M., Li, Y-L., & Chen, M-C. (2007). Personalised context-aware ubiquitous learning system for
supporting effective English vocabulary learning. *7th International Conference on Advanced Learning
Technologies* (ICALT 2007), Niigata, Japan. Retrievable from http://www.computer.org

> This Taiwanese paper describes the design of a proposed context-aware vocabulary
> learning system for L2 English. The system is intended to operate through a PDA linked to
> a web server database via an indoor WLAN that identifies the learner's location and
> delivers suitable vocabulary based on this, the current time, the free time available, and
> learner's ability.

Chen, C-M., & Tsai, Y-N. (2009). Interactive location-based game for supporting effective English
learning. *2009 International Conference on Environmental Science and Information Application
Technology 3*(1), 523–526. Retrievable from http://ieeexplore.ieee.org

> This Taiwanese paper reports on the prototype testing of an experimental location-aware
> PDA/WAN-based L2 English learning game. The game, which requires learners to locate
> a book, integrates virtual objects with real scenes in a university library. The system was
> tested by 10 university students, 90% of whom agreed it was fun to use and would be
> helpful for learning English.

Chen, C-M., & Tsai, Y-N. (2010). Interactive location-based game for supporting effective English
learning. *International Journal of Intelligent Information Technology Application*, *3*(1), 44–50.
Retrievable from http://voxy.com

> This Taiwanese paper is the published version of the experimental location-aware
> PDA/WAN-based L2 English learning game described in Chen and Tsai (2009). The
> article extensively discusses location detection technologies (RFID, WLAN, Back-
> Propagation Neural Networks) and describes in detail the operating parameters of the
> game. As reported earlier, the system was tested by 10 university students, 90% of whom
> agreed it was fun to use and would be helpful for learning English.

Chen, I-J., & Chang, C-C. (2011). Content presentation modes in mobile language listening tasks: English
proficiency as a moderator. *Computer Assisted Language Learning*, *24*(5), 451–470. Retrievable from
http://www.tandfonline.com

> This Taiwanese study investigated the moderating effect of L2 English proficiency upon
> presentation mode and performance of 162 university students using a PDA-based
> vocabulary learning program for two weeks. Half of the group had access only to audio;
> the other half had access to audio and text. Students with lower proficiency focused  more
> on the text. No moderating effect was observed on task performance as students provided
> with the dual mode outperformed their single mode counterparts across proficiency levels.

Chen, I-J., Chang, C-C. , & Yen J-C. (2012). Effects of presentation mode on mobile language learning:
A performance efficiency perspective. *Australasian Journal of Educational Technology*, *28*, 122–137.
Retrievable from http://www.ascilite.org.au

> This Taiwanese study describes the results of a PDA-based one-session pilot test which
> evaluated the effectiveness of the presence or absence of an accompanying written
> transcript upon the L2 English listening comprehension of 87 university students. The

results revealed that the provision of written text facilitated the acquisition of information in immediate recall for learners with lower English levels, but did not appear to effect the schema construction of the English listening comprehension skill.

Chen, N-S., Hsieh, S-W., & Kinshuk (2008). Effects of short-term memory and content representation type on mobile language learning. *Language Learning & Technology*, *12*(3), 93–113. Retrievable from http://llt.msu.edu/vol12num3/chenetal.pdf

This Canadian-Taiwanese study investigated the effect of content representation on the short-term rote learning of 24 L2 English/Chinese word pairs by 156 Taiwanese university students during a 50 minute session using mobile phone SMS/MMS. Both quantitative and qualitative findings demonstrated that learners with higher verbal and visual ability achieved better results from learning content with accompanying written sample sentences and/or pictorial annotation than they did from learning content without any annotation.

Chen, T-S., Chang, C-S., Lin, J-S., & Yu, H-L. (2009). Context-aware writing in ubiquitous learning environments. *Research and Practice in Technology Enhanced Learning*, *4*(1), 61–82. Retrievable from http://www.apsce.net

This Taiwanese article describes a context-aware collaborative learning system (Context-AwareWriting) that exploits PDAs equipped with RFID tag readers to allow children to read and write L1 Chinese in different locations, to communicate with other people, and to review their peers' writing. The system was trialed for eight weeks by 25 third graders for whom writing improved compared to a control group of 28. Despite a lack of preparation using the PDAs and complaints about small screen size, most pupils were satisfied with the system.

Cheng, S., Hwang, W-Y., Wu, S., Shadiev, R., & Xie, C. (2010). A mobile device and online system with contextual familiarity and its effects on English learning on campus. *Educational Technology & Society*, *13*(3), 93–109. Retrievable from http://www.ifets.info

This Taiwanese study describes a PDA phone/GPS system that provides a ubiquitous, collaborative, location-aware, L2 English learning environment by integrating desktop, web-based, and mobile technologies into a multimedia forum (StudentPartner) that allows users to retrieve data while exploring the campus in English and making English presentations. Ten university students trialed the system for five months and, though usage was low, results show these two activities were an effective and enjoyable method of learning English.

Chi, S-W., & Chan, W-M. (2009, December). Mobile Korean language learning: Podcasting as an educational medium. Paper presented at the Korean Language International Symposium to celebrate the 60th Anniversary of Kyung-Hee University, Seoul, South Korea.

Chi, S-W., & Chan, W-M. (2011). Learning beyond the classroom: Language podcast as supplementary learning material. *Ubiquitous Learning: An International Journal, 3*(2), 21–40. Retrievable from http://ijq.cgpublisher.com

This paper from Singapore describes a three-month podcast project for L2 Korean language beginners. It provides an account of the podcast's design and contents, and students' access and usage. Students' quantitative and qualitative evaluations of the podcast's design and contents are presented. The paper concludes with a discussion of the implications for the design and development of future language learning podcasts as well

as further research.

Chiang, M-H. (2012). Effects of reading via Kindle. In J. Colpaert, A. Aerts, W-C Vivian Wu, & Y-C Joni Chao (Eds.), *The medium matters* (Proceedings 15th International CALL Conference) (pp. 176–179). Retrievable from http://www.google.com

> This Taiwanese paper investigates the effect on subsequent motivation to read of doing extensive L2 English reading using a Kindle e-book compared to using a printed counterpart. For a semester, 34 university students read a novel with half using the e-reader and half a printed book. According to a student survey taken at the end of the period, use of the e-book did not result in any significant difference in the participants' motivation to read. Only a fraction of the participants reacted positively to reading novels on a Kindle.

Chin, K-N., Lin, C-Y., & Chan, W-M. (2010). Mobile learning – Podcasting for Chinese language learning. In D.B. Xu, J. Da, & P. Zhang, (Eds.), *Conference Proceedings of the Sixth International Conference and Workshops on Technology and Chinese Language Teaching* (pp. 26–34). Columbus, OH: National East Asian Language Resource Center, Ohio State University.

Chin, K-N., Lin, C-Y., & Chan, W-M. (2011). Mobile learning – Podcasting for Chinese Language Learning. *Journal for Technology and Chinese Language Teaching*, *2*(2), 37–49.  (In Chinese) Retrievable from http://www.tclt.us

Choi, E-J., & Jeong, D-b. (2010). The effects of college students' vocabulary learning by using mobile LMS lessons. *Multimedia-Assisted Language Learning*, *13*(3), 279–302. (in Korean). Retrievable from http://www.dbpia.co.kr

> This Korean paper investigates the effects of using mobile Long Message Service (LMS) lessons on L2 English vocabulary learning. A total of 72 L2 English college students were assigned to one of three groups: LMS lessons without student interaction; LMS lessons with teacher-student interactive messages; and a control group using paper materials. Using LMS lessons was more effective than using paper materials for vocabulary learning, but there were no significant differences in performance between interactive versus non-interactive LMS.

Chu, H. (2011). The Effect of the Features of Smart Phone Vocabulary Applications on Korean College Students' Satisfaction and Continued Use. *Multimedia-Assisted Language Learning*, *14*(2), 91–112. Retrievable from http://www.dbpia.co.kr

> This Korean article explores learners' patterns of usage of two L2 English smartphone vocabulary applications and the program features most sought by students. Using their own phones, 32 college students trialed one of two mobile applications for a week. Students accessed the applications mostly while commuting but did not use them often. The program features that students most wanted were the tracking of memorized versus non-memorized vocabulary, examples, audio for pronunciation, and self-control of vocabulary repetition.

City College Southampton (2005). *Multimedia learning with mobile phones*. *Innovative practices with elearning. Case studies: Any time, any place learning*. Joint Information Systems Committee, City College Southampton. Retrievable from http://www.jisc.ac.uk

> This British report gives a very general description of the design of an m-learning system

developed at the City College of Southampton to support the English language acquisition
of its ESOL (English speakers of other languages) students. Participants used camera
phones (i.e., PDAs with cameras and telephone connectivity) to send location-related text
and images via SMS/MMS to a web-based a multimedia message board. This
collaborative data collection task served as the impetus for language interaction between
students.

Clarke, P., Keing, C., Lam, P., & McNaught, C. (2008). Using SMSs to engage students in language
learning. In *Proceedings of World Conference on Educational Multimedia, Hypermedia and
Telecommunications* (pp. 6132–6141). Chesapeake, VA: AACE. Retrievable from
http://www.cuhk.edu.hk

This paper from Hong Kong investigates the use of the passive reception of mobile phone
SMS for vocabulary learning in an L2 English university course over two seven-week
terms with a cohort of 12 in the first and 7 in the second. Review questions (and answers)
based on the vocabulary of previous classes were sent daily via SMS. Students received
the SMS at no cost and did not reply. While 84% of students found the system worthwhile
and 83% enjoyed it, none indicated a willingness to use the system if they had to pay for it
(~US $5).

Comas-Quinn, A., Mardomingo, R., & Valentine, C. (2009). Mobile blogs in language learning: Making
the most of informal and situated learning opportunities. *RECALL Journal*, – (1), 96–112. Retrievable
from http://journals.cambridge.org

This British paper describes a mobile blog created to support constructivist, situated
language learning during an intensive week of study abroad so that both the eight
university L2 Spanish students who travelled to Spain and their 400 classmates who did
not could share their cultural experiences and reflections. The intent was for students to
send all the data captured on their mobile phones directly to the blog. This proved not to
be possible. Also, student participation was very low: two images, three audio recordings
and 25 comments.

Cooney, G., & Keogh, K. A. (2007). Use of mobile phones for language learning and assessment for
learning, a pilot project. Paper presented at the *Proceedings of the 6th Annual International Conference
on Mobile Learning,* Melbourne, Australia. Retrievable from http://www.learnosity.com

This Irish report describes a five-week field test by 60 high school students, which among
other things, trialed the commercial *Learnosity* language learning system. *Learnosity* was
used to facilitate school-based oral assessment of L2 Irish via mobile phones linked to an
audio server that presented oral prompts from a range of topics. Learners recorded their
verbal responses, which teachers later accessed for assessment and feedback. 67% of the
students reported having made progress in speaking Irish as result of the pilot project.

Cui, Y., & Bull, S. (2005). Context and learner modelling for the mobile foreign language learner. *System*,
*33*(2), 353–367. Retrievable from http://www.sciencedirect.com

This British article describes TenseITS, a prototype PDA-based intelligent tutoring system
which was implemented to demonstrate the teaching of L2 English verb tenses to L1
Chinese graduate students. The system is designed to adapt its interaction with users based
upon their current knowledge state as indicated by their quiz responses and user-specified
contextual factors (e.g., location, concentration level, time available to study, etc.). No
actual user data is given.

de Jong, T., Specht, M., & Koper, R. (2010). A study of contextualised mobile information delivery for language learning. *Educational Technology & Society*, *13*(3), 110–125. Retrievable from http://www.ifets.info

> This Dutch study investigated the effect upon vocabulary learning of object-based compared to location-based information delivery and the effects of user-provided context information compared to automatic context detection. The study was conducted in a 30 minute session by 35 L2 Hindi university students using an iPhone/web-based context-sensitive multimedia phrasebook application. The results showed that learners benefitted more from location-based support, with no clear effect of user-provided versus automatic context detection.

Demouy, V., Eardley, A., Kukulska-Hulme, A., & Thomas, R. (2009). The L120 mobile project. *Proceedings Mobile Learning and Autonomy in Second Language Acquisition (MLASLA).* Toledo, Spain. Retrievable from http://oro.open.ac.uk

> This British conference presentation compares the usage over a six week period of two mobile applications by 70 university L2 French students, half of whom used MP3 players for listening comprehension and half the commercial *Learnosity* mobile phone system for interactive speaking practice. Over 60% of the MP3 users consistently accessed the program 2–4 times per week compared to 20–40% of the *Learnosity* group which consistently did not use it all. *Learnosity* users raised issues about sound quality, functionality, and cost.

Demouy, V., Eardley, A., Shrestha, P., & Kukulska-Hulme, A. (2011). The Interactive Oral Assessment (IOA) project: Using Talkback® for practice and assessment of listening and speaking skills in languages. In *ICL 2011 Interactive Collaborative Learning*. Pieštany, Slovakia. Retrievable from http://oro.open.ac.uk

> This British paper evaluates the use of the commercial *Learnosity* Talkback interactive response system for the assessment of listening and speaking skills in university L2 French and L2 English learning. Talkback, which is accessible via phone, Skype, or an iPhone app, presents recorded prompts to which students respond orally. Recordings are accessible from the *Learnosity* website to both students and tutors for marking and online feedback. The trial showed that Talkback offered ease of use, a degree of realism and immediate feedback.

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

> This British article is the published version of Demouy et al. (2009), which focuses on the listening activities on MP3 players compared to the mobile phone-based *Learnosity* interactive speaking system. The response rate of MP3 users to the six weekly surveys was 48%, compared to about 10% for *Learnosity* users. The *Learnosity* users who did respond indicated a marked preference for using it at home, since interactive speaking activities are not done easily in public places, in front of others or while doing something else.

Dempster, P. (2011). Exposing reflection on accommodation and assimilation in mobile language learning. *Proceedings 10th World Conference on Mobile and Contextual Learning* (*mLearn*) (pp. 358–360). Beijing, China: Beijing Normal University. Retrievable from http://mlearn.bnu.edu.cn

This British paper describes the features of a mobile Android-based electronic dictionary application for L2 Chinese (MiniMandarinHowler) with flashcard drilling and quizzing features designed to promote reflective accommodation and assimilation of vocabulary. The prototype is intended to track user-interaction in order to automatically generate learning recommendations for learners. The system is to be evaluated in an informal environment by semi- or un-directed language learners who have differing levels of ability.

Deng, L. (2006). Survey of the use of paper dictionaries and electronic dictionaries among college students. *Lexicographical Studies*, *1*, 172–181.

Deng, H., & Shao, Y. (2011). Self-directed English vocabulary learning with a mobile application in everyday context. *Proceedings 10th World Conference on Mobile and Contextual Learning* (*mLearn*) (pp. 24-31). Beijing, China: Beijing Normal University. Retrievable from http://mlearn.bnu.edu.cn

This study from China and Singapore investigates student attitudes towards and use of a freely available mobile-phone based e-dictionary application (Remword) for self-directed L2 English vocabulary acquisition. Following a one-month trial period, 13 Chinese university students completed a usage survey, the results of which indicated a high readiness to undertake mobile learning. It also confirmed that they were able to well automate their vocabulary learning with this software in their everyday life.

Derakhshan, A., & Kaivanpanah, S. (2011). The impact of text-messaging on EFL freshmen's vocabulary learning. *EUROCALL*, 39-47. Retrievable from http://eurocall.webs.upv.es

This Iranian study describes a 7-week mobile phone-based program that used SMS for L2 English vocabulary acquisition with university students. An experimental group of 21 and a control group of 22 were both taught 15–20 words per session. Students wrote one sentence for each word for their instructor and three classmates. The experimental group sent these via SMS and the control students brought them to class on paper. A post-test and a delayed post-test administered two weeks later both showed no significant difference in word retention between the two groups.

Ducate, L., & Lomicka, L. (2009). Podcasting in the language classroom: Inherently mobile or not? In R. Oxford, & J. Oxford, (Eds.), *Second language teaching and learning in the net generation* (pp. 111–126).

This American study describes four podcast projects which each lasted a semester with a total of 68 university students of L2 German and L2 French as well as a teaching methods class. In two of the projects students produced their own podcasts which were linked to a blog assignment. While students expressed a high level of satisfaction with the podcast activities, virtually all of the listening was done from PCs. Few students actually subscribed to the podcasts and none accepted the offer of the free use of an MP3 player to access them.

Edge, D., Searle, E., Chiu, K., Zhao, J., & Landay, J. (2011). MicroMandarin: Mobile language learning in context. *Proceedings CHI* 2011, May 7–12, 2011, Vancouver, BC, Canada. Retrievable from http://dl.acm.org

This Chinese paper compares two versions of a mobile flashcard system (MicroMandarin) for the teaching of L2 Chinese vocabulary. The iPhone-based system presented vocabulary based either on the learner's GPS coordinates or word frequency. Twenty-three university students trialed the system using each version of the program for 10 days. Study sessions

with the GPS version lasted half as long but occurred in twice as many places as sessions with the frequency version, suggesting a complementary relationship between the two approaches.

Facer, B., Abdous, M., & Camarena, M. (2009). The Impact of Academic Podcasting on Students: Learning Outcomes and Study Habits. In R. de Cassia Veiga Marriott & P. Lupion Torres (Eds.) *Handbook of research on e-learning methodologies for language acquisition*.  Hershey, PA: Information Science Reference. Retrievable from http://www.igi-global.com

> This American study reports on the use of podcasting during a 14 week semester in two university L2 courses, a beginners' Italian class of 30 students and an advanced level French class of 18 students. Although 70% of students owned an MP3 player only 40% used any of the podcasts. Notwithstanding this low usage, students reported that the podcasts helped them improve their language skills in all areas, including reading, writing, comprehension, and speaking, as well as increase their knowledge of vocabulary and grammatical rules.

Fallahkhair, S., Pemberton, L., & Griffiths, R. (2005). Dual device user interface design for ubiquitous language learning: mobile phone and interactive television (iTV). *Proceedings of the 2005 IEEE International Workshop on Wireless and Mobile Technologies in Education* (WMTE'05). Los Alamitos, CA: IEEE Computer Society. Retrievable from http://lcell.bnu.edu.cn

> This British article describes the design of a system for informal language learning based on a combination of mobile phone and interactive TV technologies. On the basis of a focus group study (see Fallahkhair, Pemberton and Masthoff (2004)), a prototype called TAMALLE was developed that allows learners to use their WAP-enabled mobile phones to access program summaries, vocabulary, and phrases as well as annotations explaining difficult language items and cultural references of the TV programs they are watching.

Fallahkhair, S., Pemberton L., & Griffiths R. (2007). Development of a cross-platform ubiquitous language learning service via mobile phone and interactive television. *Journal of Computer Assisted Learning, 23*(4), 312–325. Retrievable from http://onlinelibrary.wiley.com

> This British article describes the design and trialing of the TAMALLE system (see Fallahkhair, Pemberton and Griffiths (2005)). for informal language learning based on a combination of mobile phone and interactive TV technologies. The system was tested by 14 paid university volunteers under laboratory observation conditions. Despite the slowness and busyness of the interface on iTV, most said they would definitely use it. The system enables learning from engaging, authentic, materials that are of intrinsic interest to language learners.

Fallahkhair, S., Pemberton, L., & Masthoff, J. (2004). A dual device scenario for informal language learning: Interactive television meets the mobile phone. *Proceedings IEEE International Conference on Advanced Learning Technologies* (pp. 16–20). Los Alamitos, CA: IEEE Computer Society. Retrievable from http://eprints.port.ac.uk

> This British paper describes a focus group inquiry involving a total of 21 university volunteers that was undertaken as part of the development of a system for informal language learning based on a combination of mobile phone and interactive TV technologies. The inquiry sought to determine the requirements of L2 learners, including their use of and attitudes to ICT to support foreign language acquisition. The results suggested that the best strategy would be to add interactive enhancements to existing

programs viewers might watch spontaneously.

Feng, L. (2007). An investigation of palmtop electronic dictionary use. *Bilingual Studies*, *11*, 57–59.

Fisher, T., Pemberton, R., Sharples, M., Ogata, H., Uosaki, N., Edmonds, P., Hull, A., & Tschorn, P. (2009). Mobile learning of vocabulary from reading novels: A comparison of three modes. In D. Metcalf, A. Hamilton, & C. Graffeo, (Eds.), *Proceedings of 8th World Conference on Mobile and Contextual Learning* (pp. 191–194). Orlando, FL: University of Central Florida Retrievable from http://www.open.ac.uk

> This Japanese study compares the effect upon L2 English vocabulary acquisition using paper books, e-books with dictionaries, and e-books with adaptive software (ELMO) for vocabulary learning. The experiment was conducted over a period of six weeks with three groups of 13 high school students, each of which used all three resources for two weeks. Most students read only three pages or less out of some 100 pages in each book and learned, on average, only one new word over each two-week period, regardless of the technology.

Fotouhi-Ghazvini, F., Earnshaw, R., & Haji-Esmaeili, L. (2009). Mobile assisted language learning in a developing country context. *International Conference on CyberWorlds* (pp. 391–397). Retrievable from http://www.computer.org

> This Iranian paper describes three language learning applications which were each trialed by 5–6 persons. A combination of WAP and mobile phone SMS gave government employees access to an L2 English dictionary and review course. Two Java-based applications were created to run locally on mobile phones: a hangman game (Butterfly Shooter) to teach L1 Farsi vocabulary and spelling to fifth-graders and an adventure game (MOBO City) to teach L2 English technical vocabulary to engineering students (see Fotouhi-Ghazvini et al. (2008)).

Fotouhi-Ghazvini, F., Earnshaw, R., Robison, D., & Excell, P. (2008). The MOBO City: A mobile game package for technical language learning. In J. Traxler, B. Riordan, & C. Dennett, (Eds.), *mLearn 2008 Conference Proceedings* (pp. 145–151). Beijing, China: Beijing Normal University. Retrievable from http://online-journals.org

> This Iranian paper describes the design and trialing of a mobile phone-based adventure game (MOBO City) intended to support incidental learning of L2 English technical vocabulary relating to motherboard components. Five university computer engineering students played the game with no explicit vocabulary teaching. When later tested on 46 technical words used in the game, they scored much higher compared to five other classmates who read a related technical manual without a dictionary and another five who read with a dictionary and vocabulary list.

Fotouhi-Ghazvini, F., Earnshaw, R., Robison, D., & Excell, P. (2009).The MOBO City: A mobile game package for technical language learning. *International Journal of Interactive Mobile Technologies*, *3*(2), 19–24. Retrievable from http://online-journals.org

> This Iranian article is identical to Fotouhi-Ghazvini et al. (2008).

Fung, P., Henmessy, S., & O'Shea, T. (1998). Pocketbook computing: A paradigm shift? *Computers in the Schools*, *14* (3/4), 109–118. Retrievable from http://www.tandfonline.com

This year-long British study focuses on the attitudes of some 240 native English-speaking high school students towards the use of PDAs in the preparation of their Record of Achievement, a written portfolio of achievements. Positive student attitudes are reported concerning the usefulness of the PDAs, but only a sixth of the students completed the survey and the results are not supported by any objective data.

Furuya, C., Kimura, M., & Ohta, T. (2004). Mobile language learning - A pilot project on language style and customization. In G. Richards, (Ed.), *E-Learn 2004, Proceedings of World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education* (pp. 1876–1880). Chesapeake, VA: Association for the Advancement of Computers in Education. Retrievable from http://www.editlib.org

This Japanese paper describes a research project that studied the usage patterns of an SMS-based tutorial program and its effectiveness in preparing for the L2 English TOEIC exam. Nearly 300 university students voluntarily trialed the program on their own phones during two semesters extending over five months. A usage survey revealed strong preferences for studying in short bursts and studying massive volumes of contents away from home or the university. Post-TOEIC test results demonstrated a significant improvement in performance.

Gabarre, S., & Gabarre, C. (2009a). Using cell phones in the language class: A preliminary look at some of the possibilities. *The 6th Malaysia International Conference on Languages, Literatures, and Culture*s (pp. 729–740). Putrajaya, Malaysia: Department of English, University Putra Malaysia.

This Malaysian paper describes two 2-week experiments that involved using mobile phones to foster communicative writing and speaking skills in the L2 French of university students. In the first, 18 participants used their phones to take pictures on campus accompanied by a written commentary. In the second, 22 students made recordings of a simulated dialogue. Student productions were sent via MMS to an online class forum. Students viewed each other's work and commented on it in writing and with audio recordings in the forum.

Gabarre, S., & Gabarre, C. (2009b). Delivering pull and push content with SMS, MMS and an LMS in a foreign language course. *Proceeding of ICEL 2009 International Conference on E-Learning*. Shah Alam, Malaysia.

This Malaysian paper explores the preferences of 22 university L2 French students regarding the reception of grammar notes delivered over a 14-week period via SMS and MMS compared to the same information accessible from an e-learning platform. SMSs and above all the MMSs were extremely well received by the learners. Course material was hardly ever pulled from the website by the students. Learners never initiated a request for information using the course website and only on one occasion using the mobile devices.

Gabarre, S., & Gabarre, C. (2010a). Utilising mobile phones as a language learning tool. In T. B. Hoon, Y. M. Fung, & Y. N. Thai (Eds.), *Language learning: Challenges, approaches and collaboration* (pp. 92–118). Saarbrücken, Germany: VDM Verlag Dr. Müller GmbH & Co. KG.

This Malaysian paper describes the same French L2 experiment with university students reported in Gabarre and Gabarre (2009a), in which mobile phones were used to take pictures and make accompanying textual commentaries as the basis for discussion on a web-based class forum.

Gabarre, S., & Gabarre, C. (2010b). Shooting short videos in French with mobile phones. *Flinders University Languages Group Online Review*, *4*(2), 93–108. Retrievable from http://ehlt.flinders.edu.au

> This Malaysian paper describes three mobile phone-based experiments with French L2 university students, the first two of which, involving picture taking and audio recording, were previously reported in Gabarre and Gabarre (2009a). In the third, 22 university students working in groups of three spent four weeks using their phones to create a 90 second video clip which they posted on a class forum. Students responded to these postings either with another video, a one minute audio recording or three 50-word written comments.

Gabarre, S., & Gabarre, C. (2010c). Using the learners' mobile phones to enrich exchanges in a French language course. *Proceedings of ICEL 2010, the International Conference on E-Learning* (pp. 118–125). Penang, Malaysia: ACI. Retrievable from http://books.google.com.cy

> This Malaysian paper describes a year-long set of activities undertaken by 22 university L2 French students who worked in small groups using their mobile phones to create short audio and video role plays as well as 5-minute video clip presentation. These were uploaded to a class forum and served as the basis for student comments that were similarly recorded on mobile phones and uploaded to the forum. Students' out-of-class performances were better and less stressful to do, but students found in-class work easier and more pleasant.

Gabarre, C., & Gabarre, S. (2010d). An innovative assessment method for real world learning: Learner created content with a cell phone, YouTube and an LMS. *Proceedings of Global Learn Asia-Pacific 2010 - Global Conference on Learning and Technology*, Penang, Malaysia (pp. 1202–1210). AACE. Retrievable from http://www.editlib.org

> This Malaysian paper describes a 4-week mobile phone-based video recording project in a university course for L2 French tourism and hospitality. Using their phones, 22 students worked together in groups of 3–4 to create a 5–10 minute narrated video promoting a Malaysian tourist attraction. Videos were posted on YouTube with a link to the university's learning management system. The videos submitted were of excellent quality with accurate content and both language performance and intercultural skills showed substantial gains.

García Cabrero, J. (2002). Third generation telephony: New technological support for computer assisted language learning. *International Journal of English Studies*, *2*(1), 167–178. Retrievable from http://dialnet.unirioja.es

> This Spanish article is the first MALL publication to describe the emergence of the smartphone (i.e., a PDA with telephone connectivity) and its possible application to the teaching of L2 Business Spanish. A prototype lesson, based on a unit from the web-based Tele-EnREDando multimedia tutorial program, was pilot-tested with students, who were positive about the experience. Results are claimed to be equivalent to those attained with the PC/web version of the program, but no details are given.

Ghorbandordinejad, F., Aghasafi, A., Farjadnasab, A., & Hardani, A. (2010). Mobile handheld recording devices in the general English classroom. *The First Symposium of Educational Technology*, CITY, Oman. Retrievable from http://www.google.com.cy

This Iranian paper investigated the effectiveness of using mobile voice recording devices compared to class notes on the learning of grammar in a university L2 General English class. A pilot study was undertaken with 15 students using voice recorders, MP3 players or their mobile phones to record the class discussion and 15 taking notes with paper and pencil. Based on a test taken a week after the class, students who prepared with the support of the recorded lesson significantly outperformed those who only had access to their class notes.

Gilgen, R. (2005). Holding the world in your hand: Creating a mobile language learning environment. *EDUCAUSE*. Retrievable from http://net.educause.edu

This American grant report describes a project that explored the use of different mobile devices (PDAs, laptops, early tablet PCs) as classroom alternatives to the traditional computer lab. These were trialed in various undocumented ways with university students in 26 L2 classes, the results of which were evaluated in two student attitude surveys. Despite the technological constraints of the time, overall students expressed high levels of satisfaction with in-class activities undertaken on mobile devices.

Gjedde, L., & Bo-Kristensen, M. (2012).Workplace mobile-assisted second language learning: Designing for learner generated authenticity. In J. Díaz-Vera (Ed.), *Left to my own devices: Learner autonomy and mobile-assisted language learning innovation and leadership in English language teaching* (pp. 183–195). Bingley, UK: Emerald Group Publishing Limited. Retrievable from http://dx.doi.org

This Danish study reports on a lifelong learning project in which adult learners of L2 Danish complement classroom instruction with their out-of-class documentation of workplace language and situations using mobile phones to make textual notes, capture still photos and videos, and record their voices and those of native speakers in interviews. These cultural and linguistic artefacts are stored on a server, accessible via mobile phone or PC, and shared with class members. According to teachers, students show greater motivation and engagement.

Gromik, N. (2009). Producing cell phone video diaries. In M. Thomas (Ed.), *Handbook of research on Web 2.0 and language learning*. Hershey, PA: Information Science Reference. Retreivable from http://www.igi-global.com

This Japanese paper explores the feasibility of using mobile phones to produce video diaries in a university L2 English course. Seven students recorded weekly 15-30 videos as an independent learning project. The findings revealed that while the majority of the students found merit in this project, some had reservations.

Gromik, N. (2012). Cell phone video recording feature as a language learning tool: A case study. *Computers & Education*, *58*(1), 223–230. Retrievable from http://ac.els-cdn.com

This Japanese paper presents the results of a 14-week project that exploited the video creation facility of mobile phones to improve L2 English speaking skills. Nine university students used their phones on a weekly basis to produce 30-second narrated videos. Compared to a pre-project control video, students on average demonstrated a 46% increase in word production and a 37% increase in words uttered per second. All students agreed that producing weekly cell phone videos in English improved their speaking ability.

Guerrero, L., Ochoa, S., & Collazos, C. (2010). A mobile learning tool for improving grammar skills. *Procedia Social and Behavioral Sciences 2*, 1735–1739. Retrievable from http://users.dcc.uchile

This Chilean paper describes a pilot test with 32 primary school pupils involving the use of a PDA/Web-based software application designed to teach L1 Spanish grammar and correct student assignments automatically. The task of the students was to morphologically classify a word inventory, which they did first individually, then collaboratively in groups of four. Nearly all students found the system easy to use. Over 73% thought the activity improved their Spanish language knowledge and 80% thought they contributed to group knowledge.

Gutiérrez-Colon Plana, M., Gallardo Torrano, P., & Grova, M. (2012). SMS as a learning tool: an experimental study. The Eurocall Review, *20*(2), 33–47. Retrievable from http://www.eurocall-languages.org/review/20_2/index.html

This SMS phone-based Spanish project sought to improve the L2 English vocabulary of 13 L2 English university students. Over a period of two semesters, students were sent via SMS three exercises per week based on class content, to which they were expected to respond immediately without consulting any outside resources. An attitude survey administered after the first semester revealed that most of the students found the experience interesting and appealing. Students who took part in the project outscored a control group on a pre-/post-test comparison after the second semester.

Hasegawa, K., Amemiya, S., Ishikawa, M., Kaneko, K., Miyakoda, H., & Tsukahara, W. (2007). Promoting autonomous learning: A multilinguistic word learning system based on iPod. *Proceedings of the 2007 International conference on ESL/ EFL* (pp. 70–83). n.p.

Hasegawa, K., Amemiya, S., Kaneko, K., Miyakoda, H., & Tsukahara, W. (2007). MultiPod: A multi-linguistic word learning system based on iPods. *Proceedings of the Second International Conference on Task-Based Language Teaching.* Retrievable from  http://scholar.google.com

This Japanese paper appears to be an early version of the description and evaluation of the prototype Multipod vocabulary learning system presented Amemiya et al. (2007). It is less detailed, but specifies that the system was tested with L2 English, which isn't mentioned in the Amemiya et al. (2007) article.

Hegelheimer, V., & O'Bryan, A. (2009). Mobile technologies and language education. In M. Thomas (Ed.), *Handbook of research on Web 2.0 and second language learning* (pp. 331–349). Hershey, PA: Information Science Reference.

This American study gives an overview of the use of podcasting for language learning relative to three types of exploitation: self-study, test-preparation, classroom integration. As well, a program that was trialed by 14 L2 English university students over a period of 15 weeks is evaluated. Almost all students chose to listen to the podcasts on the computer rather than on an MP3 player. The authors conclude that podcasting holds promise but that more research is needed to determine its effects of upon second language acquisition.

Hou, B., Ogata, H., Miyata, M., Li, M., & Liu, Y. (2010). JAMIOLAS 3.0: Supporting Japanese mimicry and onomatopoeia learning using sensor data. *International Journal of Mobile and Blended Learning*, *2*(1), 40–54. Retrievable from http://www.igi-global.com

This Japanese paper is the published version of Hou et al. (2009). It describes the most recent version of the JAMIOLAS system for the learning of Japanese mimetic words and onomatopoetic expressions. JAMIOLAS3 provides media files, dictionary look-up and

weather information with quizzes based on location. Six L2 Japanese university students using for 20 minutes each a paper dictionary compared to JAMIOLAS3 learned more vocabulary with JAMIOLAS3. Student attitudes towards the system were also positive.

Hou, B., Ogata, H., Miyata, M., & Yano, Y. (2009). JAMIOLAS 3.0: Supporting Japanese mimicry and onomatopoeia learning using sensor data. In S-C. Kong et al. (Eds.), *Proceedings of the 17th International Conference on Computers in Education* (pp. 593–597). Hong Kong: Asia-Pacific Society for Computers in Education. Retrievable from http://icce2009.ied.edu.hk

> This Japanese article describes a further iteration of the JAMIOLAS system for the learning of Japanese mimetic words and onomatopoetic expressions (see Ogata, Yin and Yano (2006); Ogata et al. (2007); Miyata (ELMO). (2008a); Miyata et al. (2008b)). JAMIOLAS3 provides media files, dictionary look-up and weather information with quizzes based on location. Six L2 Japanese university students using for 20 minutes each a paper dictionary compared to JAMIOLAS3 learned more vocabulary with JAMIOLAS3. Student attitudes towards the system were also positive.

Houser, C., Thornton, P., Yokoi, S., & Yasuda, T. (2001). Learning on the move: Vocabulary study via mobile phone email. *ICCE 2001 Proceedings* (pp. 1560–1565).

> This is one of a series of conference papers written with P. Thornton and others describing the teaching of English L2 vocabulary in Japan via mobile phones. A half-dozen target words per week were sent for four weeks via SMS of about 100 words (definitions, multiple usage in context, story extracts) to 44 female university students at pre-set intervals three times a day for rote memorization. Compared to students studying the same words via PC and on paper, lessons delivered via SMS resulted in significantly greater learning.

Hoven, D., & Palalas, A. (2011). (Re)conceptualizing design approaches for mobile language learning. *CALICO Journal*, *28*(3), 699–720. Retrievable from https://www.calico.org

> This Canadian study reports on the mobile-assisted component of an English for Specific Purposes course that focused on listening and speaking skills. The program exploited web-enabled MP4 players to deliver 2-8 minute workplace audio/video podcasts and to access an online class blog. It was trialed for 15 weeks by 12 L2 English college students, who appreciated the mobile resources and particularly the non-reciprocal audio podcasts, which may have been indicative of a general lack of preparedness for autonomous learning.

Hsieh, H-C., Chen, C-M., & Hong, C-M. (2007). Context-aware ubiquitous English learning in a campus environment. *7th International Conference on Advanced Learning Technologies (ICALT 2007), Niigata, Japan.* Retrievable from http://www.computer.org

> This Taiwanese article describes the design of a prototype location-aware system to support the situated learning of L2 English in a campus environment. The system operates via a PDA over an indoor WLAN. The client side includes a location detecting agent, the test agent and user portfolio database. The server side includes the courseware broker agent, user account database and English conversation and test database. The system is designed to recommend appropriate English course materials to individual learners based on their campus location.

Hsieh, W-J., Chiu, P-S., Chen, T-S., & Huang, Y-M. (2010). The effect of situated mobile learning in Chinese rhetoric ability of elementary school students. *The 6th IEEE International conference of Wireless, Mobile, and Ubiquitous Technologies in Education* (pp. 177–181). Los Alamitos, CA: IEEE Computer Society. Retrievable from http://ieeexplore.ieee.org

> This Taiwanese paper investigated the effectiveness of a situated mobile learning writing program in improving the rhetoric ability of L1 Chinese learners. The study involved 70 primary school children. The research method was a pre-test and quasi-experimental design post-test. Although the mean gain scores of the experimental group were higher than a comparison group, the difference in abilities for hyperbole, description, repetition, personification, and simile between the two groups was not statistically significant.

Hsu, C-K., He, Y-Y., & Chang, C-K. (2009). Evaluation of a MALL system integrating instant translation and shared annotation for ESL reading on PDA. In I. Gibson et al. (Eds.), *Proceedings of Society for Information Technology & Teacher Education International Conference 2009* (pp. 898–904). Chesapeake, VA: AACE. Retrievable from http://editlib.org

> This Taiwanese paper describes a PDA/web-based L2 English reading program for university students. It provides instant translation via a link to an online dictionary (Yahoo), from which users build individual word glossaries that are shared with a paired student to support extensive collaborative reading. The system was pilot tested with 42 students, who first worked only individually, then with a paired collaborator. The reading comprehension results of the collaborative pairs were superior to those who read only individually.

Hsu, H-Y., Wang, S-K., & Comac, L. (2008). Using audioblogs to assist English-language learning: an investigation into student perception. *Computer Assisted Language Learning*, *21*(2), 181–198. Retrievable from http://www.tandfonline.com

> This American study describes the pilot testing of a system that linked mobile phones to the online Evoca voice recording application to create web-based audioblogs for the submission and archiving of oral assignments. The instructor also used the audioblogs to interact with learners, evaluate their performance, and provide feedback. The system was trialed for a semester by 22 L2 English university students. While 82% agreed that the mobile-accessible audioblog was a good language learning tool, only about half actually made any audioblogs.

Huang, C., & Sun, P. (2010). Using mobile technologies to support mobile multimedia English listening exercises in daily life. *The International Conference on Computer and Network Technologies in Education*. n.pag, n.p.

> This Taiwanese paper describes the design of a mobile web-based multimedia system (MMELE) intended to provide L2 English listening practice for independent adult learners. MMELE provides learners with on-line English listening exercises and off-line practice using downloaded video or MP3 materials. It also provides a Q&A message board so that teachers and learners can ask questions related to learning and solve other problems to promote cooperative learning.

Huang, L-L., & Lin, C-C. (2011). EFL learners' reading on mobile phones. *The JALT CALL Journal*, *7*(1), 61–78. Retrievable from http://www.jaltcall.org

This Taiwanese study explores learners' preferences for reading L2 English on mobile phones compared to paper or e-mail. Ten twelfth-grade high school students were given two sets of texts, one longer (786–898 words), one shorter (54–60 words). Based on questionnaire responses, the paper format was generally more preferred for both sets. For the shorter set, the mobile phone was more preferred than e-mail. For the longer set, mobile phone was the least preferred mainly because of the small screen and font.

Hung, H-C., & Young, S. (2007). Constructing the game-based learning environment on handheld devices to facilitate English vocabulary building. Paper presented at the *Seventh IEEE International Conference on Advanced Learning Technologies*. Los Alamitos, CA: IEEE Computer Society. Retrievable from http://ieeexplore.ieee.org

This Taiwanese paper reports on the rationale of designing a PDA-based L2 English vocabulary acquisition game entitled Wireless Crossword Fan-Tan Game (WiCFG). The game aims to help elementary school students learn English words through collaborative and competitive group learning activities. Moreover, the authors anticipate that it can facilitate students' learning motivation in an interactive learning environment.

Hung, H-C., Young, S, & Lin, C-P. (2009). Constructing the face-to-face collaborative game-based interacted environment for portable devices in English vocabulary acquisition. In A. Dimitracopoulou (Eds.). Proceedings of the 8th International Conference on Computer Supported Collaborative Learning (pp. 370-375). Rhodes, Greece: University of the Aegean.

This Taiwanese study explored the effectiveness of a tablet PC-based Wireless Crossword Fan-Tan Game (WiCFG) on L2 English vocabulary acquisition compared to using a pen & paper version of the same game. One class of 32 primary school pupils participated in this single session study, with half using the WiCFG and half pen and paper. There were no significant differences between the two groups, but learning outcome, motivation, and attitude improved for all learners, especially for lower-achievement learners.

Hwang, W-Y., Chen, C-Y., & Chen, H. (2011). Facilitating EFL writing of elementary school students in familiar situated contexts with mobile devices. *Proceedings 10th World Conference on Mobile and Contextual Learning* (*mLearn*) (pp. 15–23). Beijing, China: Beijing Normal University. Retrievable from http://mlearn.bnu.edu.cn

This Taiwanese paper describes the use of a mobile device-based situated learning system that included vocabulary, phrases, and sentence patterns designed to help elementary school children create written L2 English sentences. The six-week study compared the results of 28 pupils who used the system with 31 who did not. There was a significant difference in learning achievement between two groups. Students in the experimental group thought the activities were playful and expressed an interest in situated learning.

Hwang, W-Y., & Chen, H. (2013). Users' familiar situational contexts facilitate the practice of EFL in elementary schools with mobile devices. *Computer Assisted Language Learning*, *26*(2), 101–125. Retrievable from http://www.tandfonline.com

This Taiwanese article describes the learning of L2 English in a situated learning environment by primary school children using a PDA-based multimedia program to listen to lessons and record their reading of basic words and completion of simple sentences having to do with their lunch menu. A group of 30 pupils trialed the system during their lunch hour, four days per week, for two months. This group made significantly higher gains in their English vocabulary acquisition as well as listening and speaking skills

compared to a control group who studied without PDA support.

In-Seok Kim, A. (2003). The development of the PDA-based multimedia contents for teaching an English syntax course. *Multimedia-Assisted Language Learning*, *6*(2), 9–34. Retrievable from http://www.dbpia.co.kr

> This Korean paper describes the course syllabus and the processes involved in converting a face-to-face university level L2 English syntax course to a PDA-assisted course, designing the PDA program, creating multimedia contents and their integration, and combining face-to-face teaching with students' self-study via a PDA program. Special attention is paid to research on teaching grammatical principles, integrating them to the instructional design for the PDA course, and reporting students' reactions to studying with the PDA device.

Ishikawa, M., Hasegawa, K., Amemiya, S., Kaneko, K., Miyakoda, H., & Tsukahara, W. (2007). Automatic Creation of Vocabulary Learning Materials from Short Movies. In T. Bastiaens & S. Carliner (Eds.), *Proceedings of World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education 2007* (pp. 6044–6051). Chesapeake, VA: AACE.

> This Japanese paper assesses the effectiveness HodgePodge, a PC application designed to automatically create the short annotated vodcasts used by the Multipod vocabulary learning system described in Amemiya et al. (2007) and Hasegawa et al. (2007). Based on two L2 English tests taken by 10 university students with a delay of two weeks and two months, word retention with vodcasts produced with HodgePodge was equivalent to those manually produced by instructors. Learner-produced vodcasts resulted in even higher retention rates.

Ishikawa, M., Kaneko, K., Haruko M., & Norihide S. (2009). Automatic creation of materials for vocabulary learning based on pictures by mobile phones of learners. *Proceedings of the ITI 2009 31st International Conference on Information Technology Interfaces* (pp. 391–396). Retrievable from http://hnk.ffzg.hr

> This Japanese paper describes an L2 vocabulary learning environment (SIGMA), which allows learners to automatically generate their own five-second audio-video flashcards from still images or videos that are captured on mobile phones and sent via e-mail to a website along with the L1 meaning equivalent and L2 spelling. A prototype version of SIGMA was trialed by 11 university students who indicated that they did not consider the system very easy to use, though they felt that they could learn from it.

Jolliet, 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).

> This Swiss article describes the design of a collaborative model for teaching beginner-level L2 via mobile phones based on an inventory of 50 basic vocabulary modules (20 words) and related short dialogues organized around daily-life themes (i.e., food, transportation, etc.). Learners use a phone link to practice and record pronunciation of the vocabulary and dialogues, which are distributed via email or a website, and role-play the scenarios with other learners via SMS or voice communication.

Joseph, S., Binsted, K., & Suthers, D. (2005). PhotoStudy: Vocabulary learning and collaboration on fixed & mobile devices. In *Proceeding of 3rd IEEE International Workshop on Wireless and Mobile Technologies in Education*. Los Alamitos, CA: IEEE Computer Society. Retrievable from http://lilt.ics.hawaii.edu

> This American study describes PhotoStudy, a prototype annotation system for images that operates on both PCs and mobile phones. The system supports the collaborative acquisition of vocabulary by using student produced images uploaded from mobile phone cameras to produce online multiple-choice quizzes of image-word pairs. PhotoStudy was trialed by 10 L2 English university students, using a database of existing images and multiple-choice image-word pairs. Based on student reactions, modifications were planned for future beta testing.

Joseph, S., & Uther, M. (2008). Mobile language learning with multimedia and multi-modal interfaces. *Proceedings 4th International Workshop on Wireless, Mobile and Ubiquitous Technology in Education* (pp. 124–128). Retrievable from http://ieeexplore.ieee.org

> This Anglo-American paper describes experiences that derive from two earlier mobile phone-based L2 English case studies: the audio discrimination of /l/ versus /r/ with the Mobile Adaptive CALL program (Uther et al. (2005a); Uther et al. (2005b)) and the image-based PhotoStudy (Joseph, Binsted and Suthers (2005)) vocabulary learning application. The authors also provide an overview of the current support for audio and visual interaction as well as developments in the mobile augmented and virtual reality spheres and other possible modalities.

Juárez, M., González, F., & Farmer, F. (2007). Diseño de una Aplicación de Mlearning para el Aprendizaje del Inglés para propósitos Específicos [Design of an Mlearning app for the learning of English for specific purposes]. *41 Simposio Iberoamericano de Educación, Cibernética e Informática* (SIECI 2007), Orlando, FL.

Kadyte, V. (2004). Learning can happen anywhere: A mobile system for language learning. In J. Attewell & C. Savill-Smith (Eds.), *Learning with mobile devices* (pp. 73–78). London, UK: Learning and Skills Development Agency.

> This Finnish article considers features of context-aware mobile technologies in the design of a multimedia prototype for the independent learning of L2 Finnish by adults in Finland. The system is intended to adjust to personal parameters, the community environment and cultural factors. Only general ideas are presented, no actual system is implemented or trialed.

Kargozari, H., & Tafazoli, D. (2012 ) Idiom on the move: Mobile an ubiquitous technology for learning idioms. *Proceedings 6th International Technology, Education and Development Conference* (pp. 3866–3869). Spain: International Association of Technology, Education and Development. Retrievable from http://www.iated.org

Kennedy, C., & Levy, M. (2008). L'italiano al telefonino: Using SMS to support beginners' language learning. *ReCALL Journal*, *20*(3), 315–330. Retrievable from http://journals.cambridge.org

> This Australian article is a follow-up of Levy and Kennedy (2005), this time using mobile phone SMS primarily to teach vocabulary and grammar to beginning level L2 Italian university students for seven weeks. In addition, the study sought to investigate the acceptability of "pushing" SMS to students at a time and frequency determined by the

researchers. A survey of 58 students revealed general satisfaction with the experiment, though many respondents found even one SMS per day excessive.

Kessler, G. (2010): Fluency and anxiety in self-access speaking tasks: the influence of environment. *Computer Assisted Language Learning*, *23*(4), 361–375. Retrievable from http://www.tandfonline.com

This American study investigated the effect of using MP3 players compared to audio lab PCs upon speaking quality. 40 students in an L2 English course recorded weekly two-minute audio journals over a period of ten weeks. All students had to make at least one recording in each environment. 38 opted to do 8 of 10 recordings with the mobile device. Speaking fluency was rated in relation to volume, pausing, utterance length, and rate. In all cases, recordings made using the MP3 player were ranked more positively than those made using the audio lab.

Kiernan, P., & Aizawa, K. (2004). Cell phones in task based learning: Are cell phones useful language learning tools? *ReCALL Journal, 16*(1), 71–84. Retrievable from http://journals.cambridge.org

This Japanese paper reports on a research project aimed at evaluating the use of mobile phones as tools for classroom-based vocabulary learning. A total of about 120 English L2 university students undertook picture narrative and invitation tasks involving the use of colloquial expressions over a three-week period using PC e-mail, mobile phone e-mail, and audio recordings. Post-tests did not reveal any significant differences in vocabulary acquisition between the three groups.

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. Retrievable from http://www.dbpia.co.kr

This Korean study explores the use of Twitter microblogging in L2 English classes for three different grade levels: 5, 7, 11. The tweets that were collected over three weeks from 15 pupils in each group revealed that each grade level tweeted with different purposes, and their tweets showed different patterns and distinctive features. It was concluded that Twitter stimulated learners to increase their L2 English output and helped them maintain social interaction with other learners using the target language regardless of grade levels.

Kim, H-S. (2010). Three teachers' initial efforts to use Twitter for teaching English in public schools. *Multimedia-Assisted Language Learning*, *13*(2), 129–154. Retrievable from http://www.dbpia.co.kr

This Korean article describes how three L2 English teachers in an elementary, middle, and high school used Twitter microblogging for three weeks with their students. This qualitative case study yielded findings with regard to the teachers' interaction patterns with students, which were noticeably different when using Twitter. The three teachers agreed that Twitter enables good writing practice for students of any age and provides a valuable opportunity for them to spontaneously use English for authentic purposes.

Kim, H-S. (2011). Effects of SMS Text Messaging on Vocabulary Learning. *Multimedia-Assisted Language Learning, 14*(2), 159–180. Retrievable from http://www.dbpia.co.kr

This Korean paper investigates the effectiveness of using SMS in L2 English vocabulary learning. The study involved a total of 62 university students in three English classes. One class was a control group that received only class instruction; the second class received SMS with no interactivity; and the third received SMS with interactivity. Students who learned vocabulary with SMS outperformed the control group, and those who received

SMS with interactivity learned significantly more words than those without it.

Kim, S-K., & Lim, K. (2010). A case study on the effects of microblogging as a learning activity to enhance ESL students' cultural knowledge and motivation to write in English. *Multimedia-Assisted Language Learning*, *13*(3), 155–174. (in Korean) Retrievable from http://www.dbpia.co.kr

> This Korean paper explores how Twitter can be utilized to increase the motivation of L2 English students to write in English. The study involved nine college students in New York who generated 326 tweets over a five-week period. Students focused more on content than on grammar in their tweets. The informal nature of posting and the social network of twittering were perceived as positive aspects that increased students' motivation to write in English. The character limit and the response delay were seen as negative factors in writing activities.

Knutsson, O., Nissilä, N., & Räsänen, M., & Carlsson, N. (2011). Participatory design of a mobile application for teenagers' language homework. *Proceedings 10th World Conference on Mobile and Contextual Learning* (*mLearn*) (pp. 121–129). Beijing, China: Beijing Normal University. Retrievable from http://mlearn.bnu.edu.cn

> This Finnish paper describes the design of a mobile phone-based application (Mobile Study Assistant) that provided Finnish high school students with homework assistance in L2 Swedish. The application, which targeted listening and reading skills using a news reader, dictionary, tutorial, music and movies, was developed in collaboration with 36 students. It was evaluated once by 59 students and a second time by 15 via pre- and post-questionnaires that focused on the attitudes and opinions of those using it for their homework.

Kobayashi, C. (2006). The Use of Pocket Electronic Dictionaries as Compared with Printed Dictionaries by Japanese Learners of English. Doctoral dissertation, Ohio State University. Retrievable from http://etd.ohiolink.edu

> This American PhD thesis compares the use of handheld English-Japanese e-dictionaries (ED) to that of printed dictionaries (PD) based on two studies of Japanese university students. In the first, 279 L2 English students completed a written questionnaire about their lexical processing strategies (LPS). In the second, 22 of the original respondents took a one-week delayed reading test to assess word retention. While ED users looked up words more often, there was no significant difference in LPS or word retention compared to PD usage.

Kobayashi, C. (2007). Comparing electronic and printed dictionaries: Their effects on lexical processing strategy use, word retention, and reading comprehension. In K. Bradford Watts (Ed.), *JALT 2006 Conference Proceedings* (pp. 657–671). Tokyo, Japan. Retrievable from http://jalt-publications.org

> Like the PhD dissertation (see Kobayashi (2006)) from which it is derived, this Japanese study investigates the effects of handheld e-dictionary (ED) compared to printed dictionary (PD) usage among 22 Japanese university students while reading L2 English texts in 60–90 minute sessions over a period of seven weeks. While ED users consulted their dictionaries more frequently, there were no significant differences compared to PD users in lexical processing strategies, the success rates of determining word meanings or reading comprehension.

Kobayashi, C. (2008). The use of pocket electronic and printed dictionaries: A mixed-method study. In K. Bradford Watts, T. Muller, & M. Swanson (Eds.), *JALT 2007 Conference Proceedings* (pp. 769–783). Tokyo, Japan: JALT. Retrievable from http://jalt-publications.org

> This Japanese study repeats the findings of Kobayashi (2006) and Kobayashi (2007) concerning the use of handheld e-dictionaries (ED) compared to printed dictionaries (PD) among Japanese university students. Written student questionnaires, administered to a group of 97 students in addition to the original 279, confirmed previous findings. Follow-up interviews and the testing of vocabulary retention led to the conclusion that the superior search speed of ED facilitates textual comprehension, but that it does not increase vocabulary learning.

Koyama, T. (2010). Teaching strategies for an effective use of E-dictionary: A pilot study. *Studies in English Language and Literature 37*, 35–44.

> This Japanese paper presents the results of an experiment of eight weeks' duration conducted with 14 L2 English university students which sought to demine the effectiveness of teaching explicit strategies to improve the effectiveness of word look-ups using handheld electronic dictionaries. The strategies were those observed by good language learners described in Koyama and Takeuchi (2009). Although comprehension scores were higher on a post-test, participants looked up fewer words and used fewer strategies than before their training.

Koyama, T., & Takeuchi, O. (2003). Printed dictionaries vs. electronic dictionaries: A pilot study on how Japanese EFL learners differ in using dictionaries. *Language Education and Technology*, *40*, 61–79. Retrievable from http://ci.nii.ac.jp

> This Japanese paper is the first of several studies by Koyama and Takeuchi investigating the use of handheld English/Japanese e-dictionaries (ED) by L2 English learners. It investigates the differences in the searching behavior and English word retention of a group of 16 high school and 26 university students when using EDs compared to their printed counterparts during a 20 minute session. No significant differences were found with regard to the number of words looked up, the time taken, nor word retention after a seven-day delay.

Koyama, T., & Takeuchi, O. (2004a). How look-up frequency affects EFL learning?: An empirical study on the use of handheld-electronic dictionaries. *Proceedings of the CLaSIC 2004 Conference* (pp. 1018–1024). Singapore, Singapore: Centre for Language Studies (CLS) of the National University of Singapore. Retrievable from http://kuir.jm.kansai-u.ac.jp

> This Japanese study describes a half-hour university class experiment which was designed to measure L2 English word look-up frequency, reading time and comprehension based on a short English text (~400 words). One group of 37 students used an English/Japanese handheld e-dictionaries and another group of 35 used their printed counterparts. Users of the electronic dictionaries looked up more words and read their text more quickly, but there was no significant difference in reading comprehension between the two groups.

Koyama, T., & Takeuchi, O. (2004b). Comparing electronic and printed dictionaries: How the difference affected EFL learning. *JACET Bulletin*, *38*, 33–46. Retrievable from http://ci.nii.ac.jp

> This Japanese study examines the L2 English dictionary look-up times and word retention of 18 university students in an experiment involving the reading of two short English texts

(~475 words) using an English/Japanese handheld e-dictionary compared to its printed counterpart. No significant differences were found between search times; however, use of the printed dictionary resulted in significantly better word retention in a recognition and recall test administered seven days later.

Koyama, T., & Takeuchi, O. (2005a). How has the difference affected the retention? Two empirical studies on electronic dictionaries. *Proceedings of FLEAT-V Conference*, 2005 (pp. 1–6). Retrievable from http://fleat5.byu.edu

> This Japanese study describes two experiments that evaluate L2 English word retention of university students using an English/Japanese handheld e-dictionary compared to its printed counterpart. The first (see Koyama and Takeuchi ( 2004b)) showed better retention after a week using the printed dictionary. The second experiment measured retention immediately after reading a text. Students (*n* = 17) using an e-dictionary looked up twice as many words in half the time, but did not retain any more vocabulary than the printed dictionary group (*n* = 16).

Koyama, T., & Takeuchi, O. (2005b). Does an assigned task result in better retention of words?: Two empirical studies on hand-held electronic dictionaries. *Language Education & Technology*, *42*, 119–132. Retrievable from http://ci.nii.ac.jp

> This Japanese article reports on two handheld electronic dictionary (ED) investigations of the effect of task assignment upon L2 English word retention. The first study involved 34 junior college students and the second 61 university students. Both experiments lasted for one session in which participants used an ED to look up English words while reading a text, with part of each group assigned the task of also extracting example sentences. There was no significant difference between the rate of recall or rate of recognition between the groups.

Koyama, T., & Takeuchi, O. (2007). Does look-up frequency help reading comprehension of EFL learners? Two empirical studies of electronic dictionaries. *CALICO Journal*, *25*(1), 110–125. Retrievable from https://calico.org

> This Japanese study describes two experiments that evaluate English L2 text comprehension of university students using an English/Japanese handheld e-dictionary compared to its printed counterpart in relation to word look-up frequency and time on task. In both experiments, involving two different groups of about 30 students, the results were the same. Students using e-dictionaries looked up substantially more words in much less time, but did not do any better on the text comprehension quiz than users of the printed dictionaries.

Koyama, T., & Takeuchi, O. (2009). How effectively do good language learners use handheld electronic dictionaries: A qualitative approach. *Language Education & Technology*, *46*, 131–150. Retrievable from http://ci.nii.ac.jp

> This Japanese paper compares the L2 English word look-up behavior of five good language learners (EFL/SLA post-graduate students) using handheld electronic dictionaries (ED) with that of five false-beginner level college students. Look-up strategies were investigated using a single session individually conducted think-aloud protocol. The results revealed that the advanced level students were good ED users and that the ED's functions had provided not only good language learners but also false beginners with scaffolding for L2 English learning.

Koyama, T., & Yabukoshi, T. (2011). A study on E-dictionary strategy training by implementing metacognitive tasks. *Language Education & Technology*, *Kansai chapter Collected Papers*, *13*, 79–91. (In Japanese)

> This Japanese paper follows up on the Koyama (2010) study that unsuccessfully attempted to teach look-up strategies when using handheld English-Japanese electronic dictionaries (ED) to read English texts. In this experiment, particular attention was paid to teaching eight L2 English university students to internalize the strategies taught and to consciously apply them when using the ED.

Kukulska-Hulme, A., & Bull, S. (2008).Theoretical perspectives on mobile language learning diaries and noticing for learners, teachers and researchers. In J. Traxler, B. Riordan, & Dennett, C. (Eds.), *mLearn 2008 Conference Proceedings* (pp. 184–191). Beijing, China: Beijing Normal University. Retrievable from http://oro.open.ac.uk

> This British paper discusses the potential of using mobile devices in accordance with the Noticing Hypothesis to create language learning diaries based on the electronic capture of examples of language (e.g., using text or voice input), along with observations about how the language is used. The authors offer guidelines to focus on identifying language elements that learners could be encouraged to notice, enabling them to reflect individually and collectively on language usage, and being open to the inclusion of learners' own goals.

Kukulska-Hulme, A., & Bull, S. (2009). Theory-based support for mobile language learning: Noticing and recording. *International Journal of Interactive Mobile Technologies*, *3*(2), 12–18. Retrievable from http://oro.open.ac.uk

> This British article is the same as Kukulska-Hulme and Bull (2008).

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. Retrievable from http://llt.msu.edu/vol11num3/pdf/lansungchang.pdf

> This Taiwanese article reports on two studies, each involving 52 third-grade primary school children for ten weeks, that focus on the collaborative acquisition of L2 English reading skills. The first assessed the weaknesses of collaborative learning in the classroom. The second describes the evaluation of a tablet-PC based peer-assisted learning system (MPAL) that was developed to address the identified collaborative weaknesses. MPAL was found to promote motivation to learn and enhance oral reading confidence in elementary L2 English learners.

Levy, M., & Kennedy, C. (2005). Learning Italian via mobile SMS. In A. Kukulska-Hulme & J. Traxler (Eds.), *Mobile Learning: A Handbook for Educators and Trainer* (pp. 76–83). London, UK: Taylor and Francis.

> This Australian paper describes the experimental use of mobile phone SMS primarily to promote vocabulary acquisition in a high-intermediate university level L2 Italian class. For seven weeks, at various times and daily frequencies, 18 students were sent word definitions and example context sentences extracted from an assigned class novel. They also received messages on grammar, news, literature and course administration. A user survey revealed the messages encouraged students to look-up vocabulary and grammar points afterwards.

Leung, R., Lumsden, J., & Fritz, J. (2006). Accommodating special needs users in the evaluation of an m-learning application: A case study. *Proceedings of the IADIS Mobile Learning Conference* (pp. 177–184). Dublin, Ireland. Retrievable from http://www.rockleung.com

> This Canadian paper is a follow-up to Leung, Lumsden, and Fritz (2005) and describes the preliminary evaluation of a prototype system (ALEX) for low level adult L1 English literacy. Though ultimately intended for use on a handheld device, a proof of concept application was simulated on a touch screen tablet computer and trialed by six adult literacy students in a 90 minute session which involved completing three letter writing tasks: formatting, correcting and revising. Text entry using an on-screen virtual keyboard proved particularly problematic.

Lewin, C., Scrimshaw, P., Mercer, N., & Wegerif, R. (2000). *The KS1 Literacy Evaluation Project using low cost computers.* Open University Centre for Language and Communication. Coventry: Bect

> This British report evaluates a native English-speaker literacy project that used the Dreamwriter (a special purpose portable electronic word processor) to improve the literacy skills of very young inner city primary school children. Gains in reading comprehension and writing skills (spelling, grammar, punctuation, editing, and re-drafting) are reported, but for only some of the schools involved.

Li, C. (2009). *SMS-based Vocabulary Learning for ESL Students*. MA thesis, Auckland University of Technology, New Zealand. Retrievable from http://aut.researchgateway.ac.nz

> This MA thesis from New Zealand describes two studies involving the use of mobile phone SMS as a communication tool between the researcher and L2 English university students. The focus of communication was on vocabulary acquisition, through questions and replies about unknown words. In the first study questions were initiated by the researcher for seven weeks, in the second by the students for six weeks. Although not all students liked using SMS, most engaged actively with it in memorizing and understanding new words.

Li, M., Ogata, H., Hou, B., Hashimoto, S., Liu, Y., Uosaki, N., & Yano , Y. (2010). Development of adaptive kanji learning system for mobile phone. *International Journal of Distance Education Technologies*, *8*(4), 29–41. Retrievable from http://www.igi-global.com

> This Japanese article is the published version of Li et al. (2010), which describes an adaptive learning system for kanji based on mobile phone SMS/email.

Li, M., Ogata, H., Hou, B., Hashimoto, S., Uosaki, N., Liu, Y., & Yano, Y. (2010). Development of adaptive vocabulary learning via mobile phone e-mail. *6th IEEE International Conference on Wireless, Mobile, and Ubiquitous Technologies in Education* (pp. 34–41). Los Alamitos, CA: IEEE Computer Society. Retrievable from http://ieeexplore.ieee.org

> This Japanese paper describes an adaptive learning system for kanji based on mobile phone SMS/email. The system sends the contents to learners upon request according to their interests, adjusts the difficulty level of tests to suit the learners' proficiency level using an IRT algorithm, and adapts the program to their learning style. It also checks answers and returns feedback to the learner. The system was pilot tested for a month by 10 L2 Japanese university students, who showed improvement and wanted to continue using this system.

Liang, J-K., Liu, T-C., Wang, H-Y., & Chan, T-W. (2005). Integrating wireless technology in pocket electronic dictionary to enhance language learning. *Proceedings of the Fifth IEEE International Conference on Advanced Learning Technologies* (ICALT '05). Los Alamitos, CA: IEEE Computer Society. Retrievable from http://ccv.src.ncu.edu.tw

> This Taiwanese paper describes the design of an L2 English vocabulary learning system (ELMD) based on a pocket e-dictionary (PED)/server application. PEDs equipped with a plug-in card provide a short range RF link to a classroom server, local data storage, and program execution to allow students to communicate with the teacher and each other while working on vocabulary exercises and doing dictionary look-ups, a record of which is kept on the server. Students can also use the locally installed PED resources for out-of-class learning.

Lin, C-C., & Yu, Y-C. (2012). Learning English vocabulary on mobile phones. In J. Colpaert, A. Aerts, W-C. V. Wu, & Y-C. J. Chao (Eds.), *The medium matters* (Proceedings from the 15th International CALL Conference) (pp. 416–420). Retrievable from http://www.google.com

> This Taiwanese paper describes a mobile phone MMS-based L2 English vocabulary learning program that was trialed by 32 junior high school pupils for four weeks. Nine words a week were delivered in one of four modes: text (syntactic category, Chinese translation, example sentence), text + audio (word/sentence pronunciation), text + image, and text + audio + image. Student evaluations of the system were very positive, but the effects of different presentation modes on vocabulary learning were not significantly different.

Lin, C-P., Liu, K-P., & Niramitranon, J. (2008). Tablet PC to support collaborative learning: An empirical study of English vocabulary learning. In *Fifth IEEE International Conference on Wireless, Mobile, and Ubiquitous Technology in Education* (pp. 47–51). Los Alamitos, CA: IEEE Computer Society. Retrievable from http://www.computer.org

> This Taiwanese paper studies the effect of hand-drawn sketches using the Group Scribbles application on web-linked tablet PCs to support the in-class collaborative learning of L2 English vocabulary by primary school children. The system was trialed by 20 fifth graders during an 80 minute class session. The outcomes after the completion of learning activities showed the system increased vocabulary learning, aroused students' motivations and improved their mutual interactions.

Lin, C-P., Young, S-C., & Hung, H-C. (2008).The game-based constructive learning environment to increase English vocabulary acquisition: Implementing a wireless crossword fan-tan game (WICFG) as an example. In *Fifth IEEE International Conference on Wireless, Mobile, and Ubiquitous Technology in Education* (pp. 205–207). Los Alamitos, CA: IEEE Computer Society. Retrievable from http://www.computer.org

> This Taiwanese paper, which follows up on Lin et al. (2007), describes the development of a web-enabled PDA-based scrabble game (WiCFG) intended for high school students. The game promotes the collaborative learning of L2 English vocabulary by engaging students in group competition which encourages creative thinking, requires learners to discuss their ideas, and share their English vocabulary knowledge with each other.

Lin, C-P., Young, C-S., Hung, H-C., & Lin, Y-C. (2007). Implementation of the scrabble game on the mobile devices to increase English vocabulary acquisition. *Conference Proceedings Computer-supported Collaborative Learning* (pp. 438–440). Retrievable from http://gerrystahl.net

This Taiwanese conference presentation describes the pedagogical considerations underlying the architecture of a PDA-based scrabble game intended to promote the learning of L2 English vocabulary through group collaboration and competition.

Lin, C-Y. (2011). Develop Chinese podcasting material-podcast units and its application in beginner Chinese classes. *CLS 10th Anniversary Symposium*. Singapore, Singapore: FASS.

Lin, N., Kajita, S., & Mase, K. (2007). Story-based CALL for Japanese kanji characters: A study on student learning motivation. The *JALT CALL Journal*, *3*(1,2), 25–44. Retrievable from http://www.jaltcall.org

This Japanese article describes the design and trialing of a mobile-based system intended as a textbook complement to support the learning of kanji by L2 Japanese students through the creation of mnemonic stories, which learners record orally to help memorize characters. The effect of the system on learner motivation (not learning results) was evaluated in a trial with eight university volunteers for two weeks using a specially configured COWON iAudio device. The results showed that the story-based kanji system positively affected student motivation.

Lin, N., Kajita, S., & Mase, K. (2008). Mobile user behavior and attitudes during story-based kanji learning. *JALT CALL Journal*, *4*(1), 3–18. Retrievable from http://www.jaltcall.org

This Japanese article investigates the usage patterns and attitudes of eight volunteers who trialed the story-based mobile kanji learning system described in Lin, Kajita, and Mase (2007). System user results were complemented by a survey of six L2 Japanese learners who used the same mnemonic technique without the mobile program. The results showed significant correlations between user behavior and self-reported user attitudes and general agreement among the system non-users that a mobile system would be useful for learning kanji.

Lin, N., & Mase, K. (2006). An audio-based approach to mobile learning of Japanese Kanji characters. *Proceedings of the 5th World Conference on Mobile Learning*, Banff, Alberta, Canada.

This Japanese paper describes the design of a PDA-based audio-only system intended as a textbook complement for the passive review of kanji characters by L2 Japanese learners who are only required to listen. Using voice synthesis, the program presents in random order the names of 2000 kanji characters and their subcomponents. A prototype web-based program tested the relative effectiveness of having students learn the meaning of kanji characters as opposed to learning their subcomponents, with learning the parts being the more effective.

Lin, Y-T., & Chen, H-J. (2012). Investigating the effects of podcasts via smartphones on foreign language learning. In J. Colpaert, A. Aerts, W-C. V. Wu, & Y-C. J. Chao (Eds.), *The medium matters* (Proceedings 15th International CALL Conference) (pp. 446–449). Retrievable from http://www.google.com

This Taiwanese paper reports the preliminary results of a study of the effect on L2 English learning of podcasts sent to student smartphones via e-mail. Twenty-five college volunteers participated in the study, which exploited publicly available podcasts targeting specific vocabulary items and grammar points sent to them twice daily for a month. A post-test after the first two weeks confirmed large gains in listening ability, vocabulary learning and grammar knowledge.

Liu, J. (2008). Dictionary use and English vocabulary acquisition: A contrastive study of paper dictionaries and palmtop electronic dictionaries. *Journal of Suihua University*, *1*, 117–118.

Liu, J., Yu, S., & Ran, M. (2008). Research on the communicative mobile English learning model. In *Fifth IEEE International Conference on Wireless, Mobile, and Ubiquitous Technology in Education* (pp. 60–64). Los Alamitos, CA: IEEE Computer Society. Retrievable from http://ieeexplore.ieee.org

> This Chinese paper describes a language learning system (CMEL Model) based on the Noah NP860, a specialized mobile device designed to support the independent, extra-curricular, acquisition of L2 English by primary school children. The program, which includes family education activities, mainly consists of reading, listening and information look-up. 71 pupils and their parents tested the system for three weeks. Post-tests confirmed learning gains and students, teachers and parents all expressed their acceptance of the system.

Liu, P-L., & Chen, C-J. (2012). A study of mobile-assisted photo-taking for English phrase learning and sentence making. In J. Colpaert, A. Aerts, W-C. V. Wu, & Y-C. J. Chao (Eds.), *The medium matters* (Proceedings 15th International CALL Conference) (pp. 762–765). Retrievable from http://www.google.com

> This Taiwanese paper explores the effect of mobile phone-based photo taking upon L2 English phrase learning and sentence making performance. Compared to a control group of 49 students who copied and imitated example English sentences, 68 students created their own English sentences based on photos taken with their mobile phones. In post- and delayed post-tests the experimental group performed significantly better than the control, and in particular used more concrete adverbs or adjectives, and more vivid action words.

Liu, T-Y. (2009). A context-aware ubiquitous learning environment for language listening and speaking. *Journal of Computer Assisted Learning*, *25*(6), 515–527. Retrievable from http://onlinelibrary.wiley.com

> This Taiwanese paper describes the pilot testing of a server-based mobile learning system (HELLO) for L2 English listening and speaking first reported in Liu, Tan and Chu (2007). It consists of three games, two of which involve location-aware task-based activities: one is played individually with a virtual learning tutor, the other collaboratively with other learners. The system was trialed for eight weeks by 64 seventh graders equally divided into an experimental and control group. All test results of the HELLO group were significantly better than those of the control group.

Liu, T-Y., & Chu, Y. (2010). Using ubiquitous games in an English listening and speaking course: impact on learning outcomes and motivation. *Computers & Education*, *55*(2), 630–643. Retrievable from http://pdn.sciencedirect.com

> This Taiwanese paper is a more detailed account of the study first reported in Liu (2009). It describes the pilot-testing over eight weeks, 45 minutes per week, of the location-aware HELLO language learning system for L2 English listening and speaking by 32 seventh grade students plus a control group of 32. HELLO consists of three task-based games, the one most preferred by students being an individual treasure hunt played with a virtual online tutor. All test results of the HELLO group were significantly better than those of the control group.

Liu, T-Y., Tan, T-H., & Chu, Y-L. (2007). 2D barcode and augmented reality supported English learning system. *Proceedings of the 6th IEEE International Conference on Computer and Information Science* (pp. 5–10). Los Alamitos, CA: IEEE Computer Society. Retrievable from http://ieeexplore.ieee.org

> This Taiwanese conference presentation is the first of several by Liu and colleagues that describe the HELLO language learning system. HELLO integrates PDAs, 2D barcodes, the Internet, augmented reality, mobile computing, and database technologies to support L2 English listening and speaking. A prototype of the system was trialed for four weeks in a college to evaluate the effects of the learning system and student attitudes towards it use. Results indicated that the technology was useful for English learning.

Liu, T-Y., Tan, T-H., & Chu, Y-L. (2010). QR code and augmented reality-supported mobile English learning system. In X. Jiang, M-Y. Ma, & C-W. Chen (Eds.), *Workshop of Mobile Multimedia Processing 2008*, *Lecture Notes in Computer Science 5960* (pp. 37–52). Retrievable from http://www.springerlink.com

> This Taiwanese paper describes the ongoing development of the mobile handheld HELLO context-aware language learning system reported in previous articles by Liu and colleagues. This study focuses on the use of QR codes to determine user location. Pilot testing of the QR-based system was undertaken over a period of four weeks by 20 university students playing two games, one of which involved an online virtual tutor. Student questionnaire responses indicated that most participants found HELLO easy to use and useful for assisting learning.

Looi, C-T. et al. (2009). Anatomy of a mobilized lesson: Learning my way *Computers & Education*, *53*(4), 1120–1132. Retrievable from http://ac.els-cdn.com

> This paper from Singapore is the first of two that describe the use of PDAs to teach L2 English to primary school children. The experiment lasted two hours and involved 30 pupils who took photos with PDAs around the schoolyard to exemplify newly learned prepositions. This was followed in class by the use of the PDs to draw prepositional relationships and the sharing of the sketches and photos in group discussions. It was concluded that the use of the mobile device succeeded in creating highly personalized and differentiated instruction.

Lu, M. (2008). Effectiveness of vocabulary learning via mobile phone. *Journal of Computer Assisted Learning, 24*(6), 515–525. Retrievable from http://onlinelibrary.wiley.com

> This Taiwanese paper investigates the effectiveness of mobile phone SMS on L2 English vocabulary learning. One week, half of a group of 30 high school students received a printed list of 14 target English/Chinese word pairs while the other half received via SMS two target word pairs twice a day. The next week the two groups swapped the way they received a second set of 14 word pairs. Vocabulary tests at the end of each week showed learning gains for all students, but no significant differences remained after a three-week delay.

Lumsden, J., Leung, R., D'Amours, D., & McDonald, D. (2010). ALEX©: A mobile adult literacy experiential learning application. *International Journal of Mobile Learning and Organisation*, *4*(2), 172–191. Retrievable from http://www.inderscience.com

> This Canadian paper describes the design of a mobile-based application (ALEX©) intended to support basic L1 English adult literacy in an out-of-class, experiential,

environment. ALEX© consists of a series of self-guided support tools. In particular, it contains a dictionary that exploits a speech-to-text and text–to-speech application to allow semi-literate adults to look up words and retrieve word definitions. It also permits users to maintain a list of words specific to their needs. A prototype of ALEX© was implemented on desktop PC.

Lumsden, J., Leung, R., & Fritz, J. (2005). Designing a mobile transcriber application for adult literacy education: A case study. *Proceedings of the IADIS International Conference on Mobile Learning* (pp. 16–23). Qawra, Malta. Retrievable from http://www.rockleung.com

This Canadian paper is the first of a series by Lumsden and colleagues that describes the development of a handheld system to support basic L1 English for low literacy adults. The functions of the program were elaborated in collaboration with four adult literacy students during five 60–90 minute focus group sessions. The result was a paper description of a range of tools that addressed practical everyday life-centered activities (e.g., reading package labels). It included a dictionary, thesaurus, and a facility to record words for future reference.

Markett, C. (2003). SMS speak my speak: A feasibility study of the use of mobile phone text messaging with learners of English as a second language. Unpublished manuscript, Trinity College Dublin.

Markiewicz, J-K. (2006). *Personalised and Context Sensitive Foreign Language Training supported by Mobile Devices*. MS thesis, Norwegian University of Science and Technology, Trondheim, Norway. Retrievable from http://ntnu.diva-portal.org

This Norwegian Masters thesis describes the design and prototype development of the personalized context-adaptable mobile-based PALLAS language learning system. The goal PALLAS is to teach a foreign language by encouraging students to use the language in real-life settings. The system is intended to deliver appropriate content based on the user's personal attributes, location, and environmental context. A partial implementation of the system was trialed only by the author solely as a proof of concept.

Martín, M., & Beckmann, E. (2011). Simulating immersion: Podcasting in Spanish teaching. In B. Facer & M. Abdous (Eds.), *Academic podcasting and mobile assisted language learning: Applications and outcomes* (pp. 111–131). Hershey, PA: IGI Global. Retrievable from http://www.igi-global.com

This Australian paper describes and evaluates a program involving the intensive use of Academic Podcasting Technology (APT) in the teaching of L2 Spanish to university students over a four-year period in which students became active users and producers of Spanish language podcasts in a simulated immersion environment. The program received very positive feedback from students and provides a pedagogically-sound model for the effective use of APT in immersive-style language teaching.

McTaggart, M. (1997). Palms take root in East London. *The Times Educational Supplement*. 20 June 1997, p. 23.

This British study was part of the Docklands Learning Acceleration Project that examined the use of word processing and PDAs to improve basic literacy skills of some 600 seven year old native English-speaking students in 15 primary schools in central London. The aim was to increase the amount of children's reading and writing. Only brief anecdotal reports are given.

Meurant, R. (2007). L2 digital literacy: Korean EFL students use their cell phone videocams to make an L2 English video guide to their college campus. *Proceedings of the 2007 International Conference on Intelligent Pervasive Computing* (pp.169–173). Los Alamitos, CA: IEEE Computer Society. Retrievable from http://rmeurant.com

> This Korean article describes a one-week long task-based project intended to promote the L2 English learning of university students through the use of their own mobile phones. Using the camera on their phones, individual students created a video guide of their campus, some of which included interviews. They posted these via MMS to the instructor who then uploaded them to a video blog on the English language version of a Korean social networking website (Cyworld.com). Students then commented on each other's guides.

Meurant, R. (2008). The key importance of L2 digital literacy to Korean EFL pedagogy: College students use L2 English to make campus video guides with their cell phone videocams, and to view and respond to their videos on an L2 English language social networking site. *The International Journal of Hybrid Information Technology, SERSC 1*(1), 65–72. Retrievable from http://rmeurant.com

> This Korean paper is essentially the same as Meurant (2007).

Miyakoda, H., Kaneko, K., & Ishikawa, M. (2011). Effective learning materials for mobile devices: Image vs. Sound. In S. Barton et al. ( (Eds.), *Proceedings of Global Learn Asia Pacific 2011* (pp. 1683–1690). Chesapeake, VA: AACE. Retrievable from http://media.dwds.de

> This Japanese paper describes a vocabulary learning environment that allows instructors and learners to create flashcards for mobile devices and compares the effectiveness of their use with two groups of University students, with 59 and 40 participants. Students had five minutes to learn 15 L2 English/Japanese word pairs under one of four test conditions: text only, text + audio, text + video, text +audio + video. Contrary to expectations, with both groups the presence of visual data did not positively affect learning outcomes.

Miyakoda, H., Kaneko, K., Ishikawa, M., & Shinagawa, N. (2010). Online multilingual vocabulary system and its application in L2 learning. *International Journal of Cyber Society and Education*, *3*(1), 1–14. Retrievable from http://www.academic-journals.org

> This Japanese paper describes the vodcast-based vocabulary learning system previously presented in Amemiya et al. (2007), Hasegawa et al. (2007), and Ishikawa et al. (2007), which consists of three modules: HodgePodge, PodBase, and Multipod. This study also repeats the results of L2 English tests taken by 10 university students with a delay of two weeks and two months, which showed better word retention than with pen and paper rote learning. The system was also trialed by three students for the teaching of L2 Japanese onomatopoeic expressions.

Miyata, M., Ogata, H., Kondo, T., & Yano, Y. (2008a). Supporting Japanese mimetic words and onomatopoeia learning with wireless sensor networks for overseas students. *Proceedings of ICCE2008 workshop on Mobile and Ubiquitous Language Learning: Perspectives on Context, Supplementary Proceedings of ICCE2008* (pp. 211–216). Taipei, Taiwan: ICCE. Retrievable from http://www.apsce.net

> This Japanese article is one of two nearly identical papers (see Miyata et al. (2008b)) describing the design of an improved version of the JAMIOLAS system for the learning of Japanese mimetic words and onomatopoeic expressions by L2 Japanese university students (see Ogata, Yin and Yano (2006); Ogata et al. (2007)). In JAMIOLAS2 Phidgets

(worn sensors) are replaced by palmtop computers with RFID readers which can direct learners to tagged objects and ask multiple-choice questions about them.

Miyata, M., Ogata, H., Kondo, T., & Yano, Y. (2008b). JAMIOLAS 2.0: Supporting to learn Japanese mimetic words and onomatopoeia with wireless sensor networks. Presented at the *International Conference on Computer in Education* (pp. 643–650). Taipei, Taiwan: ICCE. Retrievable from http:// http://www.apsce.net

> This Japanese paper is one of two (see Miyata et al. (2008a)) describing the design of an improved version of the JAMIOLAS system for the learning of Japanese mimetic words and onomatopoeic expressions using palmtop computers with RFID readers which can direct learners to tagged objects and ask multiple-choice questions about them. Twenty university students (16 Japanese and four international L2 Japanese learners) field tested JAMIOLAS2 for 10 minutes. Foreign students found the system more informative than did Japanese informants.

Monk, B., Ozawa, K., & Thomas, M. (2006). iPods in English language education: A case study of English listening students. *Journal of Language, Culture and Communication*, *8*(1), 85–102. Retrievable from http://ci.nii.ac.jp

> This Japanese paper presents a two-semester case study involving 169 University L2 English majors who were given iPod Shuffles to listen to podcasts. However, since the written transcripts of the podcasts were available, only 18% of students used the iPods for activities related to the learning of English, compared to 70% for listening to music. Only 15% thought that faculty had used podcasting  effectively. 64% of students indicated that they had never or hardly ever used their iPods for listening to English while traveling to and from campus.

Moseley, D., Higgins, S., Bramald, R., Hardman, F., Miller, J., Mroz, …, & Stout, J. (1999). Developing writing skills in Years 3 and 4 with Palmtop computers. Effective pedagogy using *ICT in literacy and numeracy in primary schools.* Newcastle upon Tyne, UK: University of Newcastle.

> This British study describes the effects of the use of PDAs upon the writing behavior of native English-speaking year 3 and 4 primary school students. The study, which involved 24 pupils over a period of one term, reports increased motivation to write, revise and redraft written work across a range of ability.

Motallebzadeh, K., Beh-Afarin, R., & Daliry Rad, S. (2011). The effect of short message service on the retention of collocations among Iranian lower intermediate EFL learners. *Theory and Practice in Language Studies, 1*(11), 1514–1520. Retrievable from http://ojs.academypublisher.com

> This Iranian study investigates the effectiveness of mobile phone SMS compared to printed paper for the rote learning of L2 English collocations. For five weeks, 40 university students received twice weekly seven collocations with definitions and example sentences. Half of the group received these via SMS, the other half as a printed hand-out. Students took two quizzes in the same format as the presentation mode. Participants in the SMS group showed significantly better vocabulary retention than the ones in the printed paper group.

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. Retrievable from http://ojs.academypublisher.com

This Iranian study investigates the effectiveness of mobile phone SMS compared to printed paper for the rote learning of L2 English vocabulary. For 16 sessions, three times a week over a period of five weeks, 34 university students were sent a total of 50 words with definitions and example sentences. Half of the group received these via SMS, the other half as a printed hand-out. Based on the results of a post-test, participants in the SMS group showed significantly better vocabulary retention than the ones in the printed paper group.

Munteanu, C., Lumsden, J., Fournier, H., Leung, R., D'Amours, D., McDonald, D., & Maitland, J. (2010a). ALEX – Supporting low-literacy adults through mobile computing. *Proceedings of the ACM SIGCHI Conference on Human Factors in Computing Systems* (*CHI' 2010*). New York, NY: Association for Computing Machinery.

Munteanu, C., Lumsden, J., Fournier, H., Leung, R., D'Amours, D., McDonald, D., & Maitland, J. (2010b). ALEX: Mobile language assistant for low-literacy adults. *Proceedings of the 12th International Conference on Human Computer Interaction with Mobile Devices and Services* (*MobileHCI '10*) (pp. 427–430). New York, NY: Association for Computing Machinery. Retrievable from http://delivery.acm.org

This Canadian study is related to the work done on L1 English adult literacy by Lumsden, Leung and Fritz (2005) and Leung, Lumsden and Fritz (2006). It describes the three-week trial by five adult low level literacy students of a prototype of the ALEX application carried out using a 7" tablet computer. The system included a (Harper-Collins) dictionary and thesaurus with a near spelling feature to facilitate look-ups, a text-to-speech feature to assist reading definitions, and a speech recognition system for pronunciation practice. ALEX© was well received by the learners.

Munteanu, C., Molyneaux, H., McDonald, D., Lumsden, J., Leung, R., Fournier, H., & Maitland., J. (2011). "Showing Off" your mobile device: Adult literacy learning in the classroom and beyond. *Proceedings of the 13th International Conference on Human-Computer Interaction with Mobile Devices and Service* (*MobileHCI '2011*) (pp. 95–104). New York, NY: Association for Computing Machinery. Retrievable from http://delivery.acm.org

This Canadian study involved 11 volunteers who trialed for six-months a support program (ALEX) for L1 English low level literacy adults described in detail in Munteanu et al. (2010a) and Munteanu et al. (2010b). The application was implemented on a 7" tablet computer, which was loaned to participants for in-class and out-of-class usage. Based on semi-structured oral interviews and informal teacher observations, students rated the mobile device very positively, found it easier to use than a paper dictionary, shared it with others, and used it unobtrusively in public.

Murphy, P., Bollen, D., & Langdon, C. (2012). Mobile technology, collaborative reading, and elaborative feedback. In J. Díaz-Vera (Ed.), *Left to my own devices: Learner autonomy and mobile-assisted language learning innovation and leadership in English language teaching* (pp. 131–159). Bingley, UK: Emerald Group Publishing Limited. Retrievable from http://www.emeraldinsight.com

This Japanese paper investigates the potential of a web-based environment using iPhones, laptops, and tablet computers to promote collaborative L2 English reading through the support afforded by computer-mediated feedback. Two types of feedback were compared, computer-generated only or elaborative feedback from an instructor. The system was pilot tested by 95 university students using classroom laptops. Scores attained on a reading

comprehension exercise revealed no significant difference between the feedback modes.

Murphy-Judy, K. (2011). iStudyabroad. In B. Facer & M. Abdous (Eds.), *Academic podcasting and mobile assisted language learning: Applications and outcomes* (pp. 133–146)*.* Hershey, PA: IGI Global. Retrievable from http://www.igi-global.com

> This American paper describes mobile learning technologies and techniques that enhance and extend the study-abroad experience beyond that of a small group that actually travels. It considers how well-chosen resources, along with carefully structured and planned activities, can enhance various aspects of language acquisition and social interaction. In particular, it focuses on lessons learned from trial and error across a range of technologies and borders. It ends with suggestions for ways to optimize iStudyAbroad today and tomorrow.

Nah, K-C. (2009). Language learning through mobile phones: Design and trial of a wireless application protocol (WAP) site model for learning EFL listening skills in Korea. Saarbrücken, Germany: LAP Lambert Academic Publishing.

Nah, K-C. (2010). The use of the internet through mobile phones for EFL listening activities. *Proceedings Applied Linguistics Association of Korea 2010 Annual Conference* (pp. 197-205). Retrievable from http://www.academia.edu

> This Korean paper describes a three-month study that investigated the attitudes of 20 university students towards the use of mobile phones to access Internet-based L2 English listening exercises. Students could refer to new vocabulary meanings and grammar points and discuss the topic with other participants on the mobile discussion board. The learners' attitudes towards using the site on the mobile Internet changed after the experiment. Both positive and negative attitudes decreased and consequently, neutral responses increased.

Nah, K-C. (2011). Optimising the use of wireless application protocol (WAP) sites for listening activities in a Korean English as a foreign language (EFL) context. *Computer Assisted Language Learning, 24*(2), 103–116. Retrievable from http://www.tandfonline.com

> This Korean paper investigates changes in student attitudes towards using mobile phones to access the Internet to improve their L2 English listening comprehension. A 12-week trial by 30 university students of a specially designed listening comprehension WAP site revealed a 20% increase in neutral attitudes with 8% and 12% decrease in positive and negative attitudes, respectively. The decrease in positive attitudes was attributed in particular to the extra expense for the Internet connection and the limitations of mobile phone technology.

Nah, K-C., White, P., & Jeong, D-B. (2006). The attitudes of EFL students toward the use of a wireless application protocol (WAP) site for learning EFL. In Y. M. Hyun (Ed.), *2006 International Conference of Modern English Society of Korea* (pp. 409–419). Daejeon, Korea: Modern English Society of Korea.

Nah, K-C., White, P., & Sussex, R. (2008). The potential of using a mobile phone to access the Internet for learning EFL listening skills within a Korean context. *RECALL Journal*, *20*(3), 331–347. Retrievable from http://journals.cambridge.org

> This Korean study investigates the attitudes of language learners toward using mobile phones to browse WAP sites for L2 English listening comprehension. A WAP site, accessible only via mobile phone, was trialed by 30 university students for 12 weeks. In

addition to listing comprehension materials, the site also incorporated a discussion board which was used to exchange course information and to help complete pre- and post-listening activities. Overall, language learners expressed positive attitudes towards the use of the WAP site.

Nguyen, V., & Pham, V. (2011). Learner open modeling in adaptive mobile learning system for supporting student to learn English. *International Journal of Interactive Mobile Technologies*, *5*(4), 22–29.  Retrievable from http://online-journals.org

> This Vietnamese paper describes the design parameters of a personalized context-aware mobile learning application (CAMLES) intended to help L2 English learners prepare for the TOEFL test. The system, which operates on Java-enabled mobile phones, adapts its grammatical contents based upon the learner's location, amount of time available to study and learner's knowledge level. A prototype was pilot tested by 35 university students who indicated that interactive user modelling is helpful in supporting the learning of English.

Obari, H., Goda, Y., Shimoyama, Y., & Kimura, M. (2008). Mobile technologies and language learning in Japan – learn anywhere, anytime. *Proceedings of the WorldCALL2008 Conference* (pp. 201–204). Retrievable from http://www.j-let.org

> This Japanese article summarizes the results of four experimental mobile phone-based L2 English applications for university students. In the first, 300 students received SMS grammar and vocabulary tutorials for five months in preparation for the TOEIC exam. The second and third exploited video clips for listening comprehension of news programs, one with a group of 11 learners, the other with 20 students. The fourth application targeted the rote learning of 50 words under different conditions and was pilot tested by 136 students for three weeks.

Oberg, A., & Daniels, P. (2013). Analysis of the effect a student-centred mobile learning instructional method has on language acquisition. *Computer Assisted Language Learning*, *26*(2), 177–196. Retrievable from http://www.tandfonline.com

> This Japanese paper investigated the in-class self-paced instructional use of the iPod Touch to access an online L2 English textbook-based program of listening and quizzes. The results of 61 university students who used the iPods for 15 weeks were compared to those of a control group of 61 who used only the printed textbook as instructed by their teacher. The iPod group scored consistently higher than the control in post- tests. The experimental group also indicated very positive attitudes towards self-study iPod-based learning.

O'Bryan, A., & Hegelheimer, V. (2007). Integrating CALL into the classroom: The role of podcasting in an ESL listening strategies course. *RECALL Journal, 19*(2), 162–180. Retrievable from http://journals.cambridge.org

> This American paper reports on the 15-week use of podcasting (including video) as a complement to a university L2 English listening strategies course with an enrollment of six students. Podcasts could be accessed directly from a website or downloaded to a computer or MP3 player. They were integrated into the curriculum to summarize a concept covered in class, act as a bridge between classes, and/or to introduce new material referenced in a subsequent class. Overall, the podcasts were viewed very positively by the students.

Ogata, H., Hui, G-L., Yin, C., Ueda, T., Oishi, Y., & Yano, Y. (2008). LOCH: Supporting mobile language learning outside classrooms. *International Journal of Mobile Learning and Organisation*, *2*(3), 271–282. Retrievable from http://www.inderscience.com

> This Japanese article essentially repeats the description of the mobile-based LOCH system design and experimental field test results presented in Ogata, Yin, and Yano (2006), with the inclusion of a third set of foreign university L2 Japanese learners that brings the total number of users to 22. As with the other reported student and teacher evaluations, participants found the system useful and valuable.

Ogata, H., Kondo, T., Yin, C., Liu, Y., & Yano, Y. (2007). Computer Supported Ubiquitous Learning Environment for Japanese Mimicry and Onomatopoeia with Sensors. In T. Hirashima et al. (Eds.), *Proceedings of ICCE 2007, Supporting Learning Flow through Integrative Technologies* (pp. 463–470). Fairfax, VA: IOS Press.

> This Japanese paper is a follow-up of Ogata, Yin, and Yano (2006), which describes the context-aware JAMIOLAS system for the learning of Japanese mimetic words and onomatopoeic expressions (MIO) by L2 Japanese university students. JAMIOLAS operates through Phidgets, sensors which are worn by learners who are alerted to the presence of MIO-related objects and asked questions about them over a wireless network.

Ogata, H., Miyata, M., Hou, B., & Yano, Y. (2010). JAMIOLAS2: Supporting Japanese mimetic words and onomatopoeia learning with wireless sensor networks for overseas students. *International Journal of Mobile Learning and Organisation*, *4*(4), 333–345. Retrievable from https://inderscience.metapress.com

> This Japanese article is a follow-up to Miyata et al. (2008a) and Miyata et al. (2008b). It was published after the more updated Hou et al. (2009). It describes the version of the system for the learning of Japanese mimetic words and onomatopoeic expressions that uses palmtop computers with RFID readers to direct learners to tagged objects and ask multiple-choice questions about them.

Ogata, H., & Yano, Y. (2003). How ubiquitous computing can support language learning. *Computer and Information Science*, *n vol n.*, 1–6. Retrievable from http://goo.gl

> This Japanese paper is the first of several articles written by these authors describing the design of CLUE (Collaborative Learning support system with a Ubiquitous Environment) and its implementation to support collaborative ubiquitous language learning. CLUE is intended for use with L2 English as well as L2 Japanese university students in Japan. Using PDAs, GPS, and RFID tags linked to a web server, CLUE shares with all users on the network appropriate vocabulary, sentences, and polite expressions based on where learners are located and with whom they are interacting.

Ogata, H., & Yano, Y. (2004a). CLUE：語学学習を対象としたユビキタスラーニング環境の試作と実験 (CLUE: Computer supported ubiquitous learning environment for language learning). Information Processing  Society of Japan, 45 (10), 2354–2363. Retrievable from https://0853b2ac-a-62cb3a1a-s-sites.googlegroups.com

> This Japanese paper describes the implementation and experimental trialing of the CLUE system introduced in Ogata and Yano (2003). The program consists of three subsystems intended for use with L2 English as well as L2 Japanese university students in Japan. The first system supports sentence learning, the second assists the learning of L2 Japanese polite expressions, the third supports the learning L2 English vocabulary based on the

identification of objects using RFID tags.

Ogata, H., & Yano, Y. (2004b). Knowledge awareness map for computer-supported ubiquitous language-learning. In J. Roschelle, T-W.Chan, Kinshuk, S. Yang (Eds.), *Proceedings 2nd IEEE International Workshop on Wireless and Mobile Technologies in Education: Mobile Support for Learning Communities* (pp.19–26). Los Alamitos, CA: IEEE Computer Society.

> This Japanese paper describes the design of CLUE, the collaborative ubiquitous learning system presented in Ogata and Yano (2003), and evaluates a week-long field test of a PDA + GPS/Wireless LAN prototype which provided 89 location-aware L2 English expressions. The trial compared the vocabulary retention of three university students who used the prototype to three others who studied the same vocabulary list on paper. A post vocabulary test revealed that CLUE users had learned 21 expressions compared to seven for the control group.

Ogata, H., & Yano, Y. (2004c). Context-aware support for computer-supported ubiquitous learning. In J. Roschelle, T-W.Chan, Kinshuk, S. Yang (Eds.), *Proceedings 2nd IEEE International Workshop on Wireless and Mobile Technologies in Education: Mobile Support for Learning Communities* (pp. 27–34). Los Alamitos, CA: IEEE Computer Society. Retrievable from http://ieeexplore.ieee.org

> This Japanese study reports on a user survey evaluation of lab experiments involving two context-aware vocabulary learning systems based on the PDA+GPS/RFID/Web infrastructure described for the CLUE system in Ogata and Yano (2003). In the first, 18 Japanese high school students used the JAPELAS system to find polite Japanese expressions for a role play. In the second, six high school students used the TANGO system to answer English L2 questions about RFID-tagged objects. Students expressed satisfaction with both systems.

Ogata, H., Yin, C., El-Bishouty, M., & Yano, Y. (2004). Computer supported ubiquitous learning environment for vocabulary learning. *International Journal of Learning Technology*, *5*(1), 5–24. Retrievable from http://www.google.com.cy

> This Japanese study reports on a user survey evaluation of a lab experiment involving the context-aware TANGO vocabulary learning system based on the PDA+GPS/RFID/Web infrastructure described in Ogata & Yano (2004c). In this experiment, 8 L1 Japanese university students and 8 foreign university students used TANGO to learn English L2 words about RFID-tagged objects in English and Japanese, respectively. Overall, students thought the system was helpful, but no objective learning effectiveness data is reported.

Ogata, H., Yin, C., Paredes R., Saito, N., Yano, Y., Oishi, Y., & Ueda, T. (2006). Supporting mobile language learning outside classrooms. Paper presented at the *ICALT Conference 2006*, Kerkrade, The Netherlands. Retrievable from http://ieeexplore.ieee.org

> This Japanese paper extends the data from one to two trials of the experiment described in Paredes et al. (2005) using the mobile LOCH learning system to support the collaborative task-based learning of L2 Japanese. The two one-day field trips involved 13 foreign university students and two teachers. Learners were given tasks that required them to use Japanese in real life situations (e.g., interview someone, gather information, buy something) and to collect and share data with each other, which participants found useful and valuable.

Ogata, H., Yin, C., & Yano, Y. (2006). JAMIOLAS: Supporting Japanese mimicry and onomatopoeia learning with sensors. *Proceedings of the 4th International Workshop on Wireless, Mobile and Ubiquitous Technologies in Education 2006* (pp.111–115). Los Alamitos, CA: IEEE Computer Society. http://ieeexplore.ieee.org

> This Japanese paper is the first of a series of articles by Ogata, Miyata, and colleagues describing the context-aware JAMIOLAS system for the learning of Japanese mimetic words and onomatopoetic expressions (MIO) by L2 Japanese university students. JAMIOLAS operates through a tablet PC via Phidgets, sensors which are worn by learners who are alerted to the presence of MIO-related objects and asked questions about them over a wireless network.

Osaki, S., Ochiai, N., Iso, T., & Aizawa, K. (2003). Electronic dictionary vs. printed dictionary: Accessing the appropriate meaning, reading comprehension, and retention. In M. Murata, S. Yamada, & Y. Tono (Eds.), *Dictionaries and language learning: How can dictionaries help human and machine learning?* (pp. 205–212). Urayasu, Japan: The Asian Association for Lexicography

> This Japanese paper compares the performance of 167 Japanese university students on L2 English vocabulary acquisition using handheld English/Japanese electronic dictionaries (ED), their printed counterparts (PD), and no dictionary (ND). In a reading comprehension test ED users outscored PD and ND was the lowest. Both dictionary groups also took an immediate and one-week delayed test of word definitions and word retention. ED users scored better than PD on word definitions but there was no significant difference on word retention.

Osman, M., & Chung, P. (2010). Feasibility study on mobile and communication technologies for language learning. *IADIS International Conference Mobile Learning* (pp. 265–268). Retrievable from http://eprints2.utem.edu

> This Malaysian paper investigates the feasibility of using mobile phone text messaging with communication technologies to support the collaborative acquisition of L2 English. Six students participated in the study for 10 days, half using a blog and half a wiki. They were sent five types of messages at fixed intervals: update reminders, lesson reminders, multiple-choice questions, web links, and feedback requests. The majority of the participants had positive attitudes towards the technologies and agreed their use could help them in learning English.

Osman, M., & Chung, P. (2011). Language learning using texting and wiki: A Malaysian context. *e-CASE & e-Tech International Conference* (pp. 1888–1903). n.loc: Knowledge Association. Retrievable from http://eprints2.utem.edu

> This Malaysian paper is a follow-up of Osman and Chung (2010). It describes a 38-day pilot test over of a combination of mobile phone SMS and wiki to support the collaborative learning of L2 English by 26 university students compared to a control group of 35. The study showed that the writing of the experimental group was better than that of the control. However, students in the experimental group did not like to use a wiki for collaborative learning and they much preferred working from home on desktop PCs to using mobile phones anywhere.

Palalas, A. (2009). Using mobile devices to extend English language learning outside the classroom. In D. Metcalf, A. Hamilton, & C. Graffeo (Eds.), *mlearn2009: 8th World Conference on Mobile and Contextual Learning Proceedings* (pp. 179–183). Orlando, FL: University of Central Florida.

This Canadian paper is the first of a series describing experiments undertaken with the iPod Touch to facilitate the out-of-class learning of L2 English for Specific Purposes. Twelve college students pilot tested vocabulary-based podcasts for 15 weeks. While participants expressed high levels of satisfaction with the program, minimal levels of interaction were observed and the connectivity features of the mobile devices were hardly utilised. Learning was thus limited to non-reciprocal listening and rote memorisation of vocabulary.

Palalas, A. (2011a). ESP for busy college students: Is the blend of in-class, online & mobile learning the answer? *The IALLT Journal*, *41*(1), 108–136. Retrievable from http://www.iallt.org

This Canadian paper describes a hybrid L2 English for Specific Purposes accounting course that included a mobile component based on a web-accessible iPod Touch program which provided vocabulary and listening podcasts (with video). The program was pilot tested by 12 college students for 15 weeks. It was concluded that the iTouch allowed for effective learning and teaching of listening, but the cost of the device and Internet connectivity were rated as the greatest barriers to iPod Touch effectiveness in a learning context.

Palalas, A. (2011b). Mobile-Assisted Language Learning: Designing for your students. In S. Thouësny & L. Bradley (Eds.), *Second language teaching and learning with technology: Views of emergent researchers* (pp.71–94). Dublin, Ireland: Research-publishing.net.

This Canadian paper, a sequel to Palalas (2011a), describes the pilot testing of an iPod Touch-based program designed to support the learning of L2 English for Specific Purposes. It was trialed by 21 college students for ten weeks during which time participants used the iPod individually to create audio dictionaries and collaboratively to build an online repository of idioms. The majority of tasks involve listening comprehension practice, followed by recording of audio files which capture the usage of English in the real world.

Palalas, A. (2012). *Design Guidelines for a Mobile-Enabled Language Learning System Supporting the Development of ESP Listening Skills*. PhD thesis, Centre for Distance Education, Athabasca, Canada. Retrievable from https://www.google.com.cy

This Canadian PhD presents the results of an 18 month study that is the culmination of research previously reported in Palalas (2009), Palalas (2011a) and Palalas (2011b). The goal of this project was to develop guidelines for the design of a web-based mobile-enabled learning system intended to improve the listening skills of college level L2 English for Specific Purposes students. Using desktop PCs and a range mobile devices, over 100 students undertook a series of eight tasks that depended critically upon listening comprehension to complete.

Palalas, A., & Olenewa, J. (2012). Mobile-assisted language learning: Enhancing student learning with mobile phones at George Brown College. *Contact North/Contact Nord*, *n vol n.*, 1–5. Retrievable from http://www.contactnorth.ca

This Canadian paper explored the use of the iPod Touch as an L2 English for Specific Purposes learning tool which was pilot tested by 100 college students who used the device to create personalized audio dictionaries which they posted to a class website to produce an audio-visual idiom definition repository. Student teams also went on scavenger hunts, getting hints, directions, and maps through the iPods, completing language challenges and

solving puzzles. Students shared their reflections on the learning to a voice-based blog.

Palfreyman, D. (2012). Bringing the world into the institution: Mobile intercultural learning for staff and students. In J. Díaz-Vera (Ed.), *Left to my own devices: Learner autonomy and mobile-assisted language learning innovation and leadership in English language teaching* (pp. 163–181). Bingley, UK: Emerald Group Publishing: Limited. Retrievable from http://www.emeraldinsight.com

> This study from the United Arab Emirates describes the use of mobile phone cameras by L2 English university students who took pictures of their everyday life to introduce themselves and their culture. Firstly, this was done by 15 volunteers for the benefit of newly arrived foreign instructors. Secondly, 22 students wrote a paragraph based on the photo they took as an English composition course assignment. It was concluded that the use of mobile phone cameras was an effective means of fostering learner autonomy and intercultural exchanges.

Papadima-Sophocleous, S., Georgiadou , O., & Mallouris , Y.  (2012).  iPod impact on oral reading fluency of university ESAP students. *Proceedings GLoCALL Conference*.  n.pag. October 18-20, 2012. Beijing, China.

> This Cypriot study reports the results of an experiment that sought to measure the impact of iPod Touches upon L2 English oral reading skills. The six-week project involved 15 university students who downloaded three texts with accompanying audio recordings that served as models of pronunciation. Participants used the iPods to listen to the models and record their own pronunciation. The iPod-supported activity helped students increase their automaticity in speed and accuracy and improve the prosodic features of their oral reading.

Paredes, R., Ogata, H., Saito, N., Yin, C., Yano, Y., Oishi, Y., & Ueda, T. (2005). LOCH: Supporting informal language learning outside the classroom with handhelds. *Proceedings of IEEE International Workshop on Wireless and Mobile Technologies in Education* (pp. 182–186). Los Alamitos, CA: IEEE Computer Society. Retrievable from http://ieeexplore.ieee.org

> This Japanese paper describes the prototype testing of the LOCH learning system for foreign university L2 Japanese students. LOCH provides text and voice communication between instructors and students and as well supports collaborative task-based learning through the collection and sharing of multimedia data in real life situations via GPA-equipped PDAs linked to a web server. A group of two teachers and seven foreign students trialed the system during a one-day field trip and found the system interesting and valuable.

Pearson, L. (2011). Exploring the effectiveness of mobile phones to support English language learning for migrant groups. *Journal of the Research Centre of Educational Technology*, *7*(1), 90–105.  Retrievable from http://www.rcetj.org

> This British paper describes a 10-week project that sought to explore the potential of a mobile phone-based L2 English language tutorial program (Anspear English) within a predominantly Bangladeshi community of immigrant adult learners. The application was used by one group of 15 as a supplement to their language course and also by a second group of 29 independent learners. The project findings indicated increased confidence levels for both groups and extensive use of the mobile phone resources within families.

Pearson, L., & Anspear (2011). Family-centred learning for Eastern European migrants using a mobile English language application. *Proceedings 10th World Conference on Mobile and Contextual Learning* (*mLearn*) (pp. 7–14). Beijing, China: Beijing Normal University. Retrievable from http://mlearn.bnu.edu.cn

> This British paper describes a 14-week project that explored the use of a mobile phone-based L2 English language tutorial program (Anspear English) as a family-centred learning tool for Eastern European migrant families who had recently arrived in the United Kingdom. The application was used by 20 adult learners as a supplement to their language course as well as for independent study. Participants experienced increased confidence levels across English language skills, and particularly felt more confident in their writing abilities.

Pemberton, L., Winter, M., & Fallahkhair, S. (2009). A user created content approach to mobile knowledge sharing for advanced language learners. *Proceedings of mLearn 2009* (pp. 184–187). Beijing, China: Beijing Normal University.

> This British work-in-progress paper describes the design of a mobile phone/web application (CloudBank) that combines social networking and user creation features with mobile phone communication and information retrieval functionality to create a collaborative tool to support a community of language learners. The application was discussed with two groups of international university students, one with 11 that focused on issues of functionality and terminology plus a core of six learners who focused on issues of detailed interaction design.

Pemberton, L., Winter, M., & Fallahkhair, S. (2010). Collaborative mobile knowledge sharing for language learners. *Journal of the Research Center for Educational Technology*, *6*(1), 144–148. Retrievable from http://www.rcetj.org

> This British paper essentially repeats the description of the CloudBank project reported in Pemberton, Winter and Fallahkhair (2009). The system is intended to help international university students adjust to life in their host country by enabling them to collect and annotate via mobile phone interesting language and culture related content found in everyday life and to upload these content items to a repository. From the repository, the information can be integrated into websites, blogs, and profile pages, and alerts to subscribing mobile phones.

Pérez, B., Vigil, M., Níkleva, D., Jiménez Jiménez, M., López-Mezquita Molina, M-T., del Pino Morales, F., & Sanchidrián Rodríguez , L. (2011). The Esepod project: Improving listening skills through mobile learning. *ICT for Language Learning International Conference.* Retrievable from http://www.pixel-online.net

> This Spanish paper describes ESEPOD, a podcasting project accessible via mobile phones that provides extensive L2 English listening practice complemented by collaborative online interaction. The project uses six-minute BBC broadcasts and was trialed by two groups of about 30 university students for seven weeks and ten weeks, respectively, using individual and cooperative blogs. More recently, Facebook discussion groups were used, resulting in increased student interaction. Participants' acceptance of the project has been satisfactory.

Perry, B. (2003). The use of pocket electronic dictionaries (PEDs) by Japanese university students. *The Review of Liberal Arts*, 105, 165–176.

Petersen, S. (2007). Mobile community blog: Enhanced support for mobile collaborative language learners. *Proceedings of the 2007 International Symposium on Collaborative Technologies and Systems*. Los Alamitos, CA: IEEE Computer Society. Retrievable from http://citeseerx.ist.psu.edu

> This Norwegian article follows-up on Petersen, Chabert, and Divitini (2006) and describes the implementation of a multimedia class blog accessible via mobile phone to maintain a community of learning between university L2 French study-abroad students and their stay-at-home teacher and classmates. Despite highly rating the idea of the blog, students only made 24 contributions over an 11 week period. This low level of participation was attributed to the lack of support for SMS/MMS blogging and general absence of a sense of community.

Petersen, S., Chabert, G., & Divitini, M. (2006). Language learning: Design considerations for mobile community blogs. *IADIS International Conference Mobile Learning 2006. Dublin*. Retrievable from http://citeseerx.ist.psu.edu

> This Norwegian article, a follow-up to Petersen and Divitini (2005), describes the design of a multimedia class blog accessible via mobile devices (phone, PDA, smartphone) to maintain a community of learning between university L2 French study-abroad students and their stay-at-home teacher and classmates. The blog focuses on the discussion French cultural topics (e.g., films, music, cuisine) to foster the exchange of ideas and data (text, images, sound, video), provision of feedback and maintenance of social interaction while students are away.

Petersen, S., & Divitini, M. (2005). Language learning: From individual learners to Communities. *IEEE International Workshop on Wireless and Mobile Technologies in Education* (pp. 169–173). Los Alamitos, CA: IEEE Computer Society. Retrievable from http://www.idi.ntnu.no

> This is the first of several Norwegian papers by Petersen, Divitini, and colleagues dealing with the use of mobile technologies to support L2 acquisition through collaborative social interaction in communities of learners. Two scenarios involving university students of L2 French are considered here: part-time students using MP3 players and mobile phone SMS to stay in touch with a class and full-time students studying abroad in France using text messages to share information with their stay-at-home teacher and classmates.

Petersen, S., Divitini, M., & Chabert, G. (2008). Identity, sense of community and connectedness in a community of mobile language learners. *ReCALL Journal, 20*(3), 361–379. Retrievable from http://journals.cambridge.org

> This Norwegian paper is an extended version of Petersen, S. (2007). It focuses in particular on the failure of a mobile-accessible class blog to create a community of learning between university L2 French study-abroad students and their stay-at-home teacher and classmates. Based on informal interviews with three students, it is concluded that participants lacked any sense of community from the start and could not establish their identities via the blogs, which are better suited to supporting existing communities than to creating new ones.

Petersen, S., & Markiewicz, J-K. (2008). PALLAS: Personalized language learning on mobile devices. *Proceedings 5th IEEE International Conference on Wireless, Mobile and Ubiquitous Technology in Education* (pp. 52–59). Los Alamitos, CA: IEEE Computer Society. Retrievable from http://www.idi.ntnu.no

> This Norwegian paper follows up on Markiewicz (2006) and in particular provides greater detail about the personal and contextual parameters of the mobile-accessible PALLAS language learning system. Personal factors to which the prototype system is intended to adapt its content delivery (e.g., exercises, texts, bilingual dictionary, exercise results) include the learner's age, skill level, native language, interests and courses taken. Environmental factors include location, time, day and the mobile device that is used by the learner.

Petersen, S., & Markiewicz, J-K. (2009). Personalized and contextualized language learning: Choose when, where and what. *Research and Practice in Technology-Enhanced Learning*, *4*(1), 33–60. Retrievable from http://www.idi.ntnu.no

> This Norwegian paper is essentially the published version of Petersen and Markiewicz (2008). It confirms the continuing prototype status of the mobile-accessible personalized context-adaptable PALLAS language learning system. The authors explain that, due to the lack of any content, the system has not been used by language learners and no user evaluation is available. However, the design of the system was evaluated by three university L2 French teachers, who overall were very positive about its potential usefulness.

Petersen, S., Procter-Legg, E., Cacchione, A., Fagerli, O-T., & Nefzaoui, S. (2012). Lingobee: Creating a buzz in mobile language learning. *MLearn 2012*. Beijing, China: Beijing Normal University. Retrievable from http://www.academia.edu

> This paper presents three case studies undertaken in England, Italy, and Norway. These involved 63 volunteer international students of L2 English, Italian, and Norwegian between two weeks and three months using a web-linked smartphone-based application (Lingobee) that allowed students to collectively create multimedia entries for language and culture learning. Each study involved two groups, one that used Lingobee entirely on its own and one with teacher guidance. Groups lacking support made much less use of the application.

Petersen, S., Sell, R., & Watts, J. (2011). Let the students lead the way: An exploratory study of mobile language learning in a classroom. *Proceedings 10th World Conference on Mobile and Contextual Learning* (*mLearn*) (pp. 55-61.) Beijing, China: Beijing Normal University. Retrievable from http://mlearn.bnu.edu.cn

> This Norwegian paper describes an exploratory study of the in-class use of mobile phones to access a server-based L2 English vocabulary repository (Cloudbank). The program enabled advanced language learners to collect, describe, and share multimedia language and culture-related content they came across in everyday life. The system was trialed for three months by 28 primary school pupils whose main focus was on the acquisition of figures of speech in English. Cloudbank proved a success in the classroom for both teachers and students.

Pitts, C., & Weschler, R. (1999). Gadgets and gizmos: Gimmicks or godsends? *Proceedings of the 1998 Japan Association of Language Teaching (JALT) International Conference* (pp. 106–110). Retrievable from 2012 from http://jalt-publications.org

> This paper describes the results of an experiment with 23 Japanese university learners of L2 English which focused on the relative look-up speeds of English words using a handheld English-Japanese e-dictionary compared to its printed counterpart. The results demonstrated that e-dictionary look-up was 23% faster. A survey also revealed that students used electronic and paper dictionaries in the same way and did not take advantage of the mobile device's portability or extra speed.

Pyke, N. (1997). £1m heals reading blight. *The Times Educational Supplement.* 31 January 1997, p. 1.

> This British study was part of the Docklands Learning Acceleration Project that examined the use of word processing and PDAs to improve basic literacy skills of some 600 seven year old native English-speaking students in 25 primary schools in central London. The aim was to increase the amount of children's reading and writing. Only brief anecdotal reports are given.

Reinders, H., & Cho, M-Y. (2010). Extensive listening practice and input enhancement using mobile phones: Encouraging out-of-class learning with mobile phones. *TESL-EJ*, *14*(2), n.pag. Retrievable from http://www.tesl-ej.org

> This Korean study reports on the use of a mobile phone-based audiobook to provide extensive out-of-class L2 English listening practice. To enhance a focus on form and meaning, the application slightly raised the volume of each occurrence of selected grammatical features in the book. The system was trialed for a week by 68 university students, most of whom were enthusiastic about using mobile phones for learning. Some, however, found the volume changes distracting and a number did not complete the reading assignment.

Reinders, H., & Lewis, M. (2009). Podquests: Language games on the go. In M. Andreade (Ed.), *Language Games* (pp. 76–85). Alexandria, VA: TESOL.

Robertson, L.& The Le@rning Federation (2009). *Mobile application for language learning: MALL Research Project Report.* Curriculum Corporation, 1–48. Retrievable from http://www.ndlrn.edu.au

> This Australian report describes a six-week pilot test of the commercial mobile phone-based *Learnosity* language learning system by 95 L2 Indonesian students in 11 post-primary schools from grades 7-11. The project involved students viewing stimulus materials (photographs, a map, a menu, a travel brochure), listening via a mobile phone to questions in Indonesian about those materials, and recording their oral responses in Indonesian. Overall, teachers strongly supported use of the system, but 48% of students indicated they would only like to use it occasionally and 25% never.

Ros i Solé, C., Calic, J., & Neijmann, D. (2010). A social and self-reflective approach to MALL. *RECALL Journal*, *22*(1), 3952. Retrievable from http://journals.cambridge.org

> This British paper investigates over an eight week period the patterns of behavior that could be established from language learners' use of MP3 devices by having six L2 Icelandic and six L2 Serbian/Croatian university students log their use of the devices in a diary, by having the teacher observe or elicit information in classroom discussions and

conducting ethnographic- style interviews. It was concluded that MP3 devices could allow students to adopt a social practices approach and use a variety of locations to enact and rehearse a personal voice.

Ruan, G., & Wang, J. (2008). Design of English learning system based on mobile technology. *Proceedings of International Conference on Computer Science and Software Engineering* (pp. 1062–1065). Los Alamitos, CA: IEEE Computer Society. Retrievable from http://ieeexplore.ieee.org

> This Chinese paper describes a language learning system that incorporates three applications for L2 English learners. The first uses web-enabled mobile phones to provide speaking practice by having students record responses to question prompts. The second supports vocabulary learning by sending a word or expression via SMS during class time. Students then use these in class conversations or a web-based text chat application, which they access on laptops in class. Students and instructors regarded the system very favorably.

Ruge, B. (2012). Learning Greenlandic by SMS: The potentials of text messages support for second language learners in Greenland. In J. Díaz-Vera (Ed.), *Left to my own devices: Learner autonomy and mobile-assisted language learning innovation and leadership in English language teaching* (pp. 197–212). Bingley, UK: Emerald Group Publishing Limited. Retrievable from http://dx.doi.org

> This paper from Greenland describes the use of mobile phone SMS in the teaching of L2 Greenlandic to adult immigrants. The method consisted of daily language-based mini-tasks sent by SMS and carried out face-to-face in collaboration with local L1 Greenlandic mentors. For eight weeks adult education students combined their SMS tasks with classroom instruction, web-based exercises, and video conferencing. The SMS-mentoring system helped overcome social and practical barriers that prevent learners from practicing the language.

Salameh, O. (2011). A multimedia offline cell phone system for English language learning. *International Arab Journal of e-Technology*, *2*(1), 44–48. Retrievable from http://www.iajet.org

> This Palestinian study describes the design of a prototype mobile phone off-line multimedia language learning system primarily intended to support L2 English reading and listening comprehension. Each Flash-based lesson consists of several slides containing text, picture and audio followed by multiple choice comprehension questions. Pilot testing of the system by 60 university students revealed that it worked correctly on 73% of their (mostly Nokia) mobile phones. Overall, student evaluation of lesson content was very positive.

Samuels, J. (2003). Wireless and handheld devices for language learning. *Proceedings of the 19th Annual Conference on Distance Teaching and Learning, Madison, WI*. Retrievable from http://www.uwex.edu

> This paper describes three experimental semester-long projects which trialed web-enabled PDAs used by American university students as an in-class alternative to a computer lab. The first project focused on an L2 Norwegian grammar and vocabulary review program involving a single class. In the second, PDAs were used to support 30 minute text chat sessions in an L2 French course consisting of six classes. In the third project, two Latin classes used PDAs to mark vowel length to learn scansion in Latin poetry.

Sandberg, J., Maris, M., & de Geus, K. (2011). Mobile English learning: An evidence based study with fifth graders. *Computers & Education*, *57*(1), 1334–1347. Retrievable from http://jacobijnsandberg.files.wordpress.com

> This Dutch article reports on the trialing of a smartphone-based GPS and off-line L2 English vocabulary learning game with primary school children. Two groups followed up a classroom lesson about zoo animals with a zoo visit guided by their GPS-equipped phones. Twenty-four of the pupils had access to the mobile phones only at the zoo, while 22 were also allowed to take the phones home for two weeks. A control group of 29 had classroom lessons only. Pupils who took the mobile phones home performed the best on a 50 word vocabulary post-test.

Saran, M., Seferoglu, G., & Cagiltay K. (2008). Use of mobile phones in language learning: Developing effective instructional materials. *5th International Conference on Wireless, Mobile and Ubiquitous Technologies in Education* (pp. 39–43). Los Alamitos, CA: IEEE Computer Society. Retrievable from http://ieeexplore.ieee.org

> This Turkish paper describes the use of mobile phone MMS to support L2 English vocabulary acquisition. At fixed intervals, three times a day for 10 weeks, a total of 120 words were "pushed" to 32 prep school students. The system allowed learners to see the definitions of words, example sentences, audio pronunciations and related visual support, and take multiple choice vocabulary quizzes. Though objective data is given, it is claimed that using MMS in enhancing vocabulary knowledge was very effective and that all students provided positive feedback.

Saran, M., Seferoglu, G., & Cagiltay, K., (2012).Mobile language learning: Contribution of multimedia messages via mobile phones in consolidating vocabulary. *The Asia-Pacific Education Researcher*, *21*(1), 181–190. Retrievable from http://ejournals.ph

> This Turkish paper investigates the effectiveness of using mobile phone-based multimedia messages (MMS) in learning L2 English vocabulary compared to delivery through web pages and printed form. The MMS included the definitions of words, exemplary sentences, related visual representations, word formation information, and pronunciation. The four-week trial involved 103 English preparatory school students and tests indicated that students who were sent MMS  learned  more words than those who studied the web- and paper-based materials.

Saran, M., Seferoglu, G., & Cagiltay, K. (2009). Mobile assisted language learning: English pronunciation at learners' fingertips. *Eurasian Journal of Educational Research*, *34*, 97–114. Retrievable from http://www.ejer.com.tr

> This Turkish study compared the effectiveness of a mobile phone MMS L2 English pronunciation application to delivery of the same materials via a website and printed handouts. The materials consisted of 80 word definitions, example sentences, related pictures, plus for the MMS and the web application, pronunciations. The materials were provided to three groups of eight preparatory school students, one for each condition, for four weeks. The MMS group performed nearly as well than the control groups in a post-test.

Schibeci, R., & Kissane, B. (1995). Learning with palmtop computers. In R. Oliver & M. Wild (Eds.), *Learning without limits -Proceedings of the Australian Computers in Education Conference,* Vol 1 (pp. 91–98). Claremont, Western Australia: Educational Computing Association of Western Australia (ECAWA).

> This is an early Australian study involving the use of word processing on palmtop computers (PDAs) with native-speaking English language fifth-grade primary school students. Two classes were allocated the PDAs for three terms of an academic year for in-class and home usage. Although use of the PDAs improved presentation and facilitated spell checking, no significant improvement nor decline in writing skill was observed. It was concluded that the benefits outweighed the financial, human, and educational costs.

Scinicariello, S. (2006). Podcasts in the language curriculum: integrating language, content, and technology. Paper presented at the *EuroCALL 2006 conference,* 4–7 September 2006, University of Granada, Spain.

Shao, Y. (2011). Second language learning by exchanging cultural contexts through the mobile group blog. In S. Thouësny & L. Bradley (Eds.), *Second language teaching and learning with technology: Views of emergent Researchers* (pp. 143–168). Dublin, Ireland: Research-publishing.net. Retrievable from http://research-publishing.net

> This paper from Singapore describes two studies that used a mobile group blog (Nottsblog) to foster the linguistic and cultural integration of foreign university students in the United Kingdom. The first involved 12 newly-arrived Chinese students who described over a month their own activities and shared observations of British culture. The second involved 23 prospective British students in China who spent a 30 minute session reading the Nottsblog. Students in both groups reported that the blog gave them a sense of belonging to the online community.

Shao, Y., Crook, C., & Koleva, B. (2007). Designing a mobile group blog to support cultural learning. *Proceedings of mLearn'07* (pp. 223–226). Beijing, China: Beijing Normal University.

> This British paper reports on the design of a mobile-enabled group blog intended to foster the local cultural learning of international university students. The study was carried out over three weeks with 16 newly-arrived mainland Chinese students. Analysis of blog activity revealed five types of learning: awareness, information gathering, information transfer, information sharing, and feedback. Participants agreed that the use of mobile phones to capture visuals and send texts facilitated the understanding of the local culture.

Sharpe, P. (1995). Electronic dictionaries with particular reference to the design of an electronic bilingual dictionary for English-speaking learners of Japanese. *International Journal of Lexicography*, *8*(1), 39–54. Retrievable from http://ijl.oxfordjournals.org

> This Japanese study gives the first published general introduction to handheld English-Japanese e-dictionaries and their advantages and disadvantages. It focuses particularly on the design of e-dictionaries intended for Japanese learners of English as an L2. Ways to improve look-up methods are considered in relation to their effectiveness for use by beginning and intermediate level language learners.

Shimoyama, Y., & Kimura, M. (2008). Development of and effectiveness in vocabulary learning content for mobile phones in Japan. *World CALL 2008 Conference* (pp. 138–141). Retrievable from http://www.j-let.org

This Japanese paper investigated the use of mobile phones for the learning of L2 English vocabulary in a six-week study that involved 137 university students. Firstly the study revealed that there were no significant learning differences whether English/Japanese word pairs with audio occurred alone or with an illustration or example sentence. Secondly, it was confirmed that "anytime, anywhere learning" fit in well with students' learning style. Lastly, the study showed that the use of mobile phones had little effect upon students' learning strategies.

Shinagawa, S. (2012). Adapting the iPhone for Language Teaching and Learning. In F. Zhang (Ed.), *Computer-enhanced and mobile-assisted language learning: Emerging issues and trends*. Hershey, PA: IGI Global (pp. 188–201). Retrievable from http://www.igi-global.com

Shizuka, T. (2003). Efficiency of information retrieval from the electronic and the printed versions of a bilingual dictionary. *Language Education & Technology*, *40*, 15–33. Retrievable from http://ci.nii.ac.jp

This paper describes the results of a 50 minute experiment with 77 Japanese university learners of English which measured the time taken to look up English words and usage examples using a handheld English-Japanese e-dictionary compared to its printed counterpart. Word look-up speed was substantially quicker with e-dictionaries and this advantage was multiplied by the user's familiarity with e-dictionaries. There was no significant difference between the two dictionaries in the time taken to find examples.

Song, Y. (2008). SMS enhanced vocabulary learning for mobile audiences. *International Journal of Mobile Learning and Organisation*, *2*(1), 81–98. Retrievable from http://inderscience.metapress.com

This paper from Hong Kong is an extended study of the hybrid website + mobile phone SMS vocabulary learning program described in Song and Fox (2005). Twice a day, four times per week for four weeks, between four and six thematically related words were sent via SMS to 10 volunteer adult L2 English learners. The experiment demonstrated that the use of SMS can work as a reminder and as a motivator for learning. Test results demonstrated a marginal improvement in performance and a positive learner attitude towards the use of the combined technologies.

Song, Y., & Fox, R. (2005). Integrating M-technology into web-based ESL vocabulary learning for working adult learners. *Proceedings of IEEE International Workshop on Wireless and Mobile Technologies in Education 2005* (pp. 154–158). Los Alamitos, CA: IEEE Computer Society. Retrievable from http://ieeexplore.ieee.org

This paper from Hong Kong reports on a pilot study that explores the use of mobile phone SMS to support the L2 English vocabulary learning of working adults. The system was trialed for four weeks by 10 volunteers as a complement to a web-based multimedia tutorial program. New words and expressions were delivered via SMS twice a day, four days a week. Test results demonstrated a marginal improvement in performance and a positive learner attitude towards the use of the combined technologies.

Stockwell, G. (2007). Vocabulary on the Move: Investigating an intelligent mobile phone-based vocabulary tutor. *Computer Assisted Language Learning*, *20*(4), 365–383. Retrievable from http://www.tandfonline.com

This is the first of four Japanese studies comparing the use of L2 English vocabulary learning software on web-enabled mobile phones and PCs. The study involved 11 university students over a period of 13 weeks. The program required students to choose,

write or match words, definitions or translations. Mobile phone usage was very low, with eight of 11 students using their phones little or not at all. Learners generally spent more time per task when they used a mobile phone, but achieved lower scores than when completing the tasks on the computer.

Stockwell, G. (2008). Investigating learner preparedness for and usage patterns of mobile learning. *ReCALL Journal, 20*(3), 253–270. Retrievable from http://www.f.waseda.jp

> This Japanese study is a follow-up to Stockwell (2007).  It evaluates the use by 75 university students over 13 weeks of an L2 English vocabulary program available on both PCs and web-enabled mobile phones. The study sought to identify how and why learners did or did not use mobile phones for language learning. 61.3% of students did not use mobile phones at all; 22.7% tried them, but quit. Students felt that PCs were faster and easier to use. Learners were not prepared to pay for using mobile phones for non-recreational purposes.

Stockwell, G. (2010). Using mobile phones for vocabulary activities: examining the effect of the platform. *Language Learning & Technology, 14*(2), 95–110. Retrievable from http://llt.msu.edu/vol14num2/stockwell.pdf

> This Japanese study evaluates mobile phone compared to desktop PC usage of a web-based L2 English vocabulary program by 175 university students over a three-year period. In effect, it collates the results of Stockwell (2007) and Stockwell (2008) with the outcomes of a similar 2009 study. Though still limited, mobile phone usage was higher in the last year (35.6%) than in the first (17.4%) and second (14%) years. Lessons took consistently longer to complete on mobile phones, but there was not much difference in the scores achieved as a result of the platform.

Stockwell, G. (2012). Mobile phones for vocabulary learning: do smart phones make a difference? In J. Colpaert, A. Aerts, W-C. V. Wu, & Y-C. J. Chao, *The medium matters: Proceedings 15th International CALL Conference*, (pp. 572–574). Retrievable from http://www.google.com

This Japanese study compared the use of smartphones versus non-smartphones and desktop PCs to access a web-based L2 English vocabulary program. It lasted one semester and involved university students, of which 13 owned smartphones and 26 non-smartphones. As in previous studies (Stockwell (2007); Stockwell (2008); Stockwell (2010), most students used a PC in preference to either type of mobile phone to do exercises, which took longer to complete with phones. There was no noticeable difference in scores achieved using either type of phone or a PC.

Summerfield, G. (2011). Crossing classroom settings and academic disciplines while crossing geographical boundaries. In B. Facer & M. Abdous (Eds.), *Academic podcasting and mobile assisted language learning: Applications and outcomes* (pp. 147–158). Hershey, PA: IGI Global. Retrievable from http://www.igi-global.com

> This American paper examines how university learners enrolled in a one-month L2 Italian abroad program benefitted from a curriculum which used iPods as repositories of study materials as well as tools for the recording of interviews. This study suggests that the use of technology was able to extensively engage students in language- and culture-based tasks and was able to cultivate collaboration and creativity while providing students with a real sense of an abroad classroom and a wealth of information and resources at the fingertips.

Sweeney, T., Sharples, M., & Pemberton, R. (2011). Toponimo: A geosocial pervasive game for English second language learning. *Proceedings 10th World Conference on Mobile and Contextual Learning* (*mLearn*) (pp. 417–420). Beijing, China: Beijing Normal University. Retrievable from http://mlearn.bnu.edu.cn

> This British study describes the design of a prototype mobile-based game (Toponimo) for L2 English vocabulary acquisition. Toponimo is a client/server application. The client runs on Android 2.2 devices and connects to a centralized server either via a Wi-Fi or a 3GS connection. The aim of Toponimo is to support the acquisition of vocabulary by linking words or phrases to physical locations via GPS data. Words are collected by the learner and shared with other learners in a social game.

Tabatabaei, O., & Goojani, A. (2012). The impact of text messaging on vocabulary learning of Iranian EFL learners. *Cross Cultural Communication*, *8*(2), 47–55. Retrievable from http://www.highbeam.com

> This Iranian paper describes the results of a two-month mobile phone-based study into the effectiveness of SMS for L2 English vocabulary acquisition. 30 high school students wrote sentences for between five and six words per session, which were sent via SMS to the instructor and fellow students. A control group of 30 did likewise by exchanging written papers. The SMS group significantly outperformed the control group on a vocabulary post-test. Both students and their teachers had positive attitudes toward the application of SMS on vocabulary learning.

Tai, Y. (2012). Contextualizing a MALL: Practice design and evaluation. *Educational Technology & Society*, *15*(2), 220–230. Retrievable from http://www.ifets.info

> This Taiwanese paper describes the design and pilot testing of an L2 English program that exploits the communication and multimedia capabilities of smartphones to complete a set of problem solving tasks intended to generate authentic interaction, discussion, and negotiation among language learners. It was tested by 35 primary school children, working in groups of between three and four, who used mobile phones out of class to collect and share Internet-based data and communicate with each other and their teacher to obtain information and guidance.

Tan, T-H., & Liu, T-Y. (2004). The mobile-based interactive learning environment (MOBILE) and a case study for assisting elementary school English learning, *Proceedings of the 2004 IEEE International Conference on Advanced Learning Technologies*. Los Alamitos, CA: IEEE Computer Society. Retrievable from http://ieeexplore.ieee.org

> This Taiwanese paper describes an experimental L2 English vocabulary learning system (MOBILE) for primary school children based on web-enabled student PDAs linked to a multimedia resource database on a teacher's notebook computer. For 12 weeks, 22 students trialed the system, which allowed them to download learning materials, browse the web, take notes and do tutorial exercises. A series of six pre-/post-tests confirmed that use of the system resulted in significant vocabulary gains. A student questionnaire demonstrated high levels of user satisfaction.

Thabit, K., & Dehlawi, F. (2012). Towards using MP4 players in teaching English language: An empirical study. *Journal of Engineering*, *2*(8), 25–28. Retrievable from http://www.iosrjen.org

> This Saudi Arabian paper describes the trialing of a commercial L2 English learning program (*Cambridge University Training Center*), which was transferred to MP4 players

and distributed to 15 university students for voluntary usage for one month.  A post-test confirmed that students who had access to the MP4-based materials outscored a control group of 44 classmates who had no such access. A survey administered to the experimental group indicated a high level of MP4 device usage and satisfaction with the program.

Thornton, P., & Houser, C. (2001a). Learning on the Move: Foreign language vocabulary via SMS. *Ed-Media 2001 Proceedings* (pp. 1846–1847). Norfolk, VA: Association for the Advancement of Computing in Education.

> This conference paper describes the same experiment involving the teaching of English L2 vocabulary in Japan via mobile phones as reported in Houser et al. (2001). A half-dozen target words per week were sent for four weeks via SMS of about 100 words (definitions, multiple usage in context, story extracts) to 44 female university students at pre-set intervals three times a day for rote memorization. Compared to students studying the same words via PC and on paper, lessons delivered via SMS resulted in significantly greater learning.

Thornton, P., & Houser, C. (2001b). Learning on the Move: Vocabulary Study via Email and Mobile Phone SMS. In C. Montgomerie & J. Viteli (Eds.), *Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications 2001* (pp. 1896–1897). Chesapeake, VA: Association for the Advancement of Computing in Education. Retrievable from http://www.editlib.org

> This conference paper describes the same mobile phone-based L2 English vocabulary learning experiment as that which appears in Thornton and Houser (2001a).  A half-dozen target words per week were sent for four weeks via SMS of about 100 words (definitions, multiple usage in context, story extracts) to 44 female university students at pre-set intervals three times a day for rote memorization. Compared to students studying the same words via PC and on paper, lessons delivered via SMS resulted in significantly greater learning.

Thornton, P., & Houser, C. (2002). M-learning in transit. In P. Lewis (Ed.), *The changing face of CALL* (pp. 229–243). Lisse, The Netherlands: Swets & Zeitlinger.

> This is the published version of the study described in the conference proceedings of Houser et al. (2001), Thornton and Houser (2001a), and Thornton and Houser (2001b).

Thornton, P., & Houser, C. (2003a). EduCall: Adding interactivity to large lecture classes in Japan via mobile phones. In D. Lassner & C. McNaught (Eds.), *Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications 2003* (pp. 1871–1874). Chesapeake, VA: Association for the Advancement of Computing in Education. Retrievable from http://www.editlib.org

> This Japanese paper describes a prototype audience response system that was trialed by 25 L2 English students during one university lecture. The system used student mobile phones connected to a website to conduct anonymous polls and administer comprehension checks several times during the lecture. Working in groups of three, students discussed questions and then submitted their responses, which were automatically collated and displayed to the class. The system provided greater interactivity and feedback than in a traditional lecture.

Thornton, P., & Houser, C. (2003b). Using mobile web and video phones in English language teaching: Projects with Japanese college students. In B. Morrison, C. Green, & G. Motteram (Eds.), *Directions in CALL: Experience, experiments & evaluation* (pp. 207–224). Hong Kong: English Language Centre, Hong Kong Polytechnic University.

> This article summarizes three MALL studies undertaken in Japan with university students of English L2: *Learning on the Move*, *EduCALL*, and *Vidioms. Learning on the Move* is described in Thornton and Houser (2001a), Thornton and Houser (2001b), and Thornton and Houser (2002). *EduCALL* is described in Thornton and Houser (2003a). *Vidioms* was a class experiment, involving about 30 female students during one ten minute session, to test the feasibility of using short video clips and animations to teach English idioms via mobile phones and PDAs.

Thornton, P., & Houser, C. (2004). Using mobile phones in education. In J. Roschelle et al. (Eds.) *Proceedings of the 2nd IEEE International Workshop on Wireless and Mobile Technologies in Education* (pp. 3–10). Los Alamitos, CA: IEEE Computer Society. Retrievable from http://www.it.iitb.ac.in

> This conference presentation summarizes three previous studies undertaken with female Japanese university students. The first relates to a 2001 survey of mobile phone penetration, which revealed 100% ownership with a 99% rate of SMS usage, sending and receiving on average 200 per week. The second, *Learning on the Move*, is described in Thornton and Houser (2001, 2002). The third, *Vidioms*, is described in Thornton and Houser (2003b).

Thornton, P., & Houser, C. (2005). Using mobile phones in English education in Japan. *Journal of Computer Assisted Learning*, *21*(3), 217–228. Retrievable from https://resources.oncourse.iu.edu

> This is the published version of the study described in the Thornton and Houser (2004) conference proceedings.

Todd, R., & Tepsuriwong, S. (2008). Mobile mazes: Investigating a mobile phone game for language learning. *CALL-EJ Online*, *10*(1), 1–16. Retrievable from http://callej.org

> This Thai article describes the pilot testing of a mobile phone-based English L2 reading maze game. Three short stories of between 50 and 70 pages each were created for the game, which involved students selecting how the storyline progressed. Because of screen size limitations, most pages comprised only one or two sentences. Glosses were provided, mostly in Thai, for words, phrases or difficult language points. The program was trialed for a couple of weeks by 28 university students, who reported mostly favorably on the experience.

Tschirhart, C., O'Reilly, C., & Bradley, C. (2008). Language learning 'On The Go'. In J. Traxler, B. Riordan, & C. Dennett (Eds.), *mLearn 2008 Conference Proceedings* (pp. 279–288). Beijing, China: Beijing Normal University.

> This British article discusses the pedagogical and technical issues surrounding the development and trialing of five online L2 French language learning applications for the Nokia N95 mobile phone. Prototypes were developed for vocabulary (understanding instructions), grammar (relative pronouns), video (listening comprehension), oral grammar presentation (passé composé), and word search (descriptive words). The applications were tested by eight university students, who gave a very positive response towards mobile learning.

Tseng, C-C., Lu, C-H., & Hsu, W-L. (2006). A mobile environment for Chinese language learning. In A. Méndez-Vilas et al. (Eds.), *Current developments in technology-assisted education* (pp. 243–246). Badajoz, Spain: FORMATEX. Retrievable from http://www.iis.sinica.edu

> This Taiwanese article describes the general design of a PDA/Web-based system intended to teach basic L2 Chinese words and phrases to foreign spouses in adult education classes. No details are given, only a hypothetical user scenario is presented.

Uther, M., Singh, P., Zipitria, I., & Uther, J. (2003). MAC: An adaptive, perception-based speech remediation s/w for mobile devices. *Artificial intelligence in education* (AIED) (pp. 1–10). Amsterdam, The Netherlands: IOS Press.

> This British paper is the first of three articles relating to a mobile adaptive CALL program (MAC) intended to help Japanese speakers of L2 English to perceptually distinguish the /r/ versus /l/ phonemic contrast. This article focuses on the design of the system and the algorithms used to present learners with more trials in the area where they make most mistakes. Initial tests of the MAC algorithm with a control group found a good fit between the observed and predicted behavior of the MAC adaptation.

Uther, M., Singh, P., Zipitria, I., & Uther, J. (2005a). MAC: An adaptive, perception-based speech remediation s/w for mobile devices. *Artificial Intelligence in Education (AIED) workshop on language tutoring*. Amsterdam, The Netherlands: IOS Press.

> This British paper is a follow-up to Uther et al. (2003). It similarly describes the design parameters of the mobile phone-based adaptive CALL program (MAC) and provides details of the algorithms used to create /r/ versus /l/ phonemic discrimination exercises for Japanese learners of L2 English. Computer-based simulations of the mobile application found a good fit between the observed and predicted behavior of the adaptation algorithms.

Uther, M., Zipitria, I., Uther, J., & Singh, P. (2005b). Mobile Adaptive CALL (MAC): A case-study in developing a mobile learning application for speech/audio language training. *Wireless and Mobile Technologies in Education, IEEE International Workshop* (pp. 187–191). Los Alamitos, CA: IEEE Computer Society. Retrievable from http://ieeexplore.ieee.org

> This British case-study describes a ten-minute experimental test of the Mobile Adaptive CALL application, first described in Uther et al. (2003). MAC was designed to assist Japanese L2 English learners perceptually distinguish the English /r/ versus /l/ phonemic contrast. It adapts to the proficiency level of the user by tailoring phonemic discrimination practice in response to learner's recognition errors. The system was trialed on a mobile phone by four non-Japanese university students, who were generally positive about its overall design.

Vihavainen, S., Kuula, T., & Federley, M. (2010). Cross-use of smart phones and printed books in primary school education. *Proceedings of the 12th International Conference on Human Computer Interaction with Mobile Devices and Services* (pp. 279–282). Retrievable from http://delivery.acm.org

> This Finnish paper describes the pilot testing of a web-based system for the teaching of L2 English that exploited smartphones to support the reading of L2 English by primary school children. Over a period of three weeks, 25 pupils used smartphones to take a picture of a page from the book they were reading and sent it to a web server that identified the text and returned to the learners three types of tutorial exercises: missing words, crossword

puzzle (out-of-class), and text listening (in-class). The system was highly rated by the students.

Wang, F., Chen, X., & Fang, W. (2011). Integrating cell phones into a Chinese high school EFL classroom: Students' attitudes, technological readiness, and perceived learning. *Journal of Educational Technology Development and Exchange*, *4*(1), 91–102. Retrievable from http://www.sicet.org

> This Chinese paper describes 74 high school students' attitudes towards and readiness to use mobile phone technology as an L2 English language learning tool. Students were placed in groups of between three and four and over a period of four weeks given the task of using their mobile phones to capture images of English street logos and signs to be used as the basis of a PowerPoint presentation. Survey results confirmed that students were ready and able to use mobile phones for language learning and felt that they had learned a lot from this activity.

Wang, X. (2003). Palmtop electronic dictionary for Chinese EFL students: Help or hindrance?. *Teaching English in China*, 26(1), 2-5.

Weschler, R., & Pitts, C. (1999). CALL to PEDAL: From computer assisted language learning to portable electronic devices for autonomous learning. *Journal of the Kyoritsu Women's University Department of International Studies*, *16*, 20–40.

> This early Japanese study gives a general description of handheld electronic dictionary (ED) features and investigates their use among university L2 English learners. It reports on a survey of 86 ED students which revealed that they used them mostly for reading, very little for listening and they didn't value much the word pronunciation feature of the devices. A single session class experiment with 47 students demonstrated that word look-up was 23% faster with EDs compared to comparable paper dictionaries.

Weschler, R., & Pitts, C. (2000). An experiment using electronic dictionaries with EFL students. *The Internet TESL Journal*, *6*(8) n.pag. Retrievable from http://iteslj.org

> This paper describes the same e-dictionary experiment as that reported in Pitts and Weschler (1999). The study involved 23 Japanese university learners of L2 English and evaluated the relative look-up speeds of English words using a handheld English-Japanese e-dictionary compared to its printed counterpart. The results demonstrated that e-dictionary look-up was 23% faster. A survey also revealed that students used electronic and paper dictionaries in the same way and did not take advantage of the mobile device's portability or extra speed.

Wong, L-H., & Looi, C-T. (2010). Enculturating self-directed seamless learners: Towards a Facilitated Seamless Learning Process framework. *Proceedings of the IEEE Seventh International Conference on Wireless, Mobile and Ubiquitous Technology in Education* (pp.1–8). Los Alamitos, CA: IEEE Computer Society. Retrievable from http://www.computer.org

> This paper from Singapore presents two case studies, one of which involved the acquisition of L1 Chinese vocabulary first reported in Wong et al. (2011a) and Wong et al. (2011b). It describes the activities of 34 primary school children who were given smartphones to use for 10 months in school and out of class to take photos in real-life contexts illustrating Chinese idioms and conjunctions, about which they co-wrote paragraphs that they posted onto a wiki space for peer review. The children were very positive about the experience.

Wong, L-H., Boticki, I., Sun, J., & Looi, C-K. (2011a). Improving the scaffolds of a mobile-assisted Chinese character forming game via a design-based research cycle. *Computers in Human Behavior, 27* (5), 1783–1793.  Retrievable from http://www.sciencedirect.com

> This paper reports on the Singapore-based study that was part of the collaborative learning research described in Boticki, Wong and Looi (2011). It was trialed with 37 L1 Chinese school children who spent two sessions playing a Chinese character formation game (Chinese P-P) using a smartphone compared to a card-based version. Most of the participants (~80%) preferred the card-based game, which allowed them to easily engage in trial & error strategies. As a result, the design of the smartphone game was changed to facilitate group experimentation.

Wong, L-H., Boticki, I., Sun, J., & Looi, C-K. (2011b). Improving the mCSCL approach of a mobile Chinese character forming game via a design-based research cycle. *Conference Proceedings Computer-supported Collaborative Learning* (pp. 168–175). Retrievable from http://gerrystahl.net

> This paper reports on the Singapore-based study that was part of the collaborative learning research described in Boticki, Wong and Looi (2011). The content is essentially the same as that of Wong et al. (2011a). It describes 37 L1 Chinese school children who spent two sessions playing a Chinese character formation game (Chinese P-P) using a smartphone compared to a card-based version. Most of the participants (~80%) preferred the card-based game, which allowed them to easily engage in trial & error strategies.

Wong, L-H., Chai, C-S., Chin, C-K., Hsieh, Y-F., & Liu, M. (2011). Leveraging ubiquitous technology for seamless language learning: From "Move, Idioms!" to MyCLOUD. *Proceedings 10th World Conference on Mobile and Contextual Learning* (*mLearn*) (pp. 232–240). Beijing, China: Beijing Normal University. Retrievable from http://mlearn.bnu.edu.cn

> This paper from Singapore discusses the design parameters of a server-based seamless language learning system (MyCLOUD) for primary school children intended to foster the learning of L2 Chinese vocabulary via tablet computers. MyCLOUD is to be progressively integrated into the curriculum of grades three, four, and five over a three-year period. The student module will consist of My Mictionary, a cloud-based personalized e-portfolio dictionary and a wiki-like CoMictionary for the sharing and peer-review student-produced artifacts.

Wong, L-H., Chai, C-S., Chin, C-K., Hsieh, Y-F., & Liu, M. (2012). Towards a seamless language learning framework mediated by the ubiquitous technology. *International Journal of Mobile Learning and Organisation*, *6*(2), 156–171. Retrievable from https://inderscience.metapress.com

> This paper from Singapore is a follow-up to Wong et al. (2011a) and Wong et al. (2011b) regarding the design of a seamless language learning system (MyCLOUD) intended to address the challenges of young learners of L2 Chinese. It describes the prospective MyCLOUD initiative and discusses some methodological issues pertaining to it. The framework is intended to explore ways to close the loops in both the seamless learning perspective and the language learning perspective through an ongoing learning process mediated by ubiquitous technology.

Wong, L-H., Chen, W-L., & Jan, M. (2012). How artifacts mediate small group co-creation activities in a mobile-assisted language learning environment*?*. *Journal of Computer Assisted Learning*, *28*(5), 411–424. Retrievable from http://onlinelibrary.wiley.com

This paper from Singapore focuses on the initial, in-class, preparatory stage of the smartphone-based L1 Chinese idiom learning program described in Wong et al. (2011a) and Wong et al. (2011b). It analyses interactions within small groups in a class of 34 primary school pupils in relation to a pedagogical approach based on mediation by artifacts and distributed cognition. The goal of the project was to nurture learners' abilities to autonomously identify and appropriate in situ resources as mediating artifacts to construct individual and social meaning.

Wong, L-H., & Chin, C-K. (2012). 以设计型研究方法执行流动学习历程"成语，动起来！"中的课程设计. 华文学刊 (Development of a curriculum design framework for the mobile-assisted idiom learning process through design-based research). *Chinese Language Education*, *9*(2), 65–78.

Wong, L-H., Chin, C-K., Tan, C-L., & Liu, M. (2010). Students' personal and social meaning making in a Chinese idiom mobile learning environment. *Educational Technology & Society*, *13*(4), 15–26. Retrievable from http://www.ifets.info

This paper from Singapore is the first of a series describing an application (Move, Idioms!) for the learning of L1 Chinese idioms through the out-of-class use of smartphones linked to a class wiki. For nine weeks, 40 primary school children were given smartphones to capture photos of real-life contexts exemplifying 29 idioms, to construct sentences employing the idioms and to send their images and text to their class wiki for sharing and peer review. The children, however, used the smartphone more as a game-playing toy than a learning tool.

Wong, L-H., Hsu, C-K., Sun, J., & Boticki, I. (2013). How flexible grouping affects the collaborative patterns in a mobile-assisted Chinese character learning game. *Educational Technology & Society, 16*(2), 174–187. Retrievable from http://www.ifets.info

This paper from Singapore describes a study of 15 L2 Chinese school children who trialed a smartphone-based collaborative Chinese character formation game (Chinese P-P) as described in Wong et al. (2011a) and Wong et al. (2011b). Pupils spent six one-hour fortnightly class sessions alternatively working either in a single group or multiple groups of their choosing. They adapted well to playing the games in both modes by figuring out strategies to maximize their winning chances and in the process gained orthographic awareness of Chinese characters.

Wong, L-H., Liu, M., Chin, C-K., Tan, C-L., & Gong, C. (2011). Using mobile technology to extend in-class Chinese idiom learning to daily life: A pilot study. In C-K. Chin (Ed.), *Teaching and learning Chinese as a second language: An international perspective* (pp. 247–263). Nanjing, China: Nanjing University Press.

Wong, L-H., & Looi, C. (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. Retrievable from http://onlinelibrary.wiley.com

This paper from Singapore describes two case studies involving 40 primary school children. The first, which is a follow-up to Looi et al. (2009), lasted two hours and focused on taking photos with PDAs to exemplify L2 English sentences using newly learned prepositions. In the second case study, previously described in Wong, Chin, Tan and Liu (2010), pupils used smartphones for nine weeks to take pictures exemplifying L1 Chinese idioms. However, they did not treat the smartphone as a learning tool and used it more as a

toy for game-playing.

Wong, L-H., Song, Y., Chai, C-S., & Zhan, Y. (2011). Analyzing students' after-school artifact creation processes in a mobile-assisted language learning environment. In T. Hirashima et al. ( (Eds.), *Proceedings of the 19th International Conference on Computers in Education*. Taoyuan, Taiwan: Asia-Pacific Society for Computers in Education. Retrievable from http://www.nectec.or.th

> This paper from Singapore is a follow-up to the pilot testing reported in Wong et al. (2010). It describes the integration of a smartphone-based system (Move, Idioms!) into the L1 Chinese curriculum in a class of 34 primary school children over a 10 month period during which pupils took photos in real-life contexts related to Chinese idioms, made sentences with the idioms, and posted them onto a wiki space for peer reviews. Due mostly to parental restrictions, only a minority of photo artifacts were created outside of the home or school.

Wu, T., Sung, T., Huang, Y., Yang, C., & Yang, J-C. (2011). Ubiquitous English learning system with dynamic personalized guidance of learning portfolio. *Educational Technology & Society*, *14*(4), 164–180. Retrievable from http://www.ifets.info

> This Taiwanese paper describes a reading-based L2 English learning system which uses PDAs or smartphones with RFID tag readers and WiFi network connectivity to provide learners with location-appropriate texts to read. The system offers translations, pronunciation and explanations of words, sentences, paragraphs, and articles. A reading guidance algorithm proposes texts based on a dynamically maintained learner portfolio. The system was trialed for eight weeks by 113 university students, most of whom agreed about its usefulness.

Yamada, M., Kitamura, S., Shimada, N., Utashiro, T., Shigeta, K., Yamaguchi, …., & Nakahara, J. (2011). Development and evaluation of English listening study materials for business people who use mobile devices: A case study. *CALICO Journal*, *29*(1), 4466. Retrievable from https://calico.org

> This Japanese study reports on the effectiveness of a smartphone + web server program on the improvement of L2 English listening comprehension. It specifically targeted sales staff in a large Japanese company and was based upon audio-video clips of workplace scenarios and accompanying tutorial exercises .The program was trialed by 39 volunteers who used it on their own time for three weeks. Results showed that the materials were effective in enhancing learning motivation and improving listening comprehension performance.

Yamaguchi, T. (2005). Vocabulary learning with a mobile phone. Program of the *10th Aniversary Conference of Pan-Pacific Association of Applied Linguistics,* August 2-4, 2005. Edinburgh, UK.

Yang, J-C., Lai, C-H., & Chu, Y-M. (2005). Integrating speech technologies into a one-on-one digital English classroom. *Wireless and Mobile Technologies in Education* (pp. 159–163). Los Alamitos, CA: IEEE Computer Society. Retrievable from http://ieeexplore.ieee.org

> This Taiwanese paper describes a classroom trial of an experimental PDA-based speech recognition program intended to provide L2 English oral practice for L1 Chinese primary school children. The game-based system was tested in one 90 minute session by 32 sixth grade pupils who practiced pronouncing single words and short sentences. No significant difference in correct pronunciation matches were observed, but students reported an increase in confidence to speak and a high level of approval of the system.

Yang, T-Y., & Chen, H-J. (2012). Investigating the effects of a mobile game on EFL learners' vocabulary learning. In J. Colpaert, A. Aerts, W-C. V. Wu, & Y-C. J. Chao (Eds.), *The medium matters: Proceedings 15th International CALL Conference* (pp. 697–700). Retrievable from http://www.google.com

> This Taiwanese paper describes the pilot testing of an Android-based mobile phone vocabulary game for the teaching of L2 English vocabulary. The application was trialed by nine university students. Based on the comparison between their pre- and post-test scores, the subjects were able to learn several new vocabulary items. A survey showed that students considered the mobile game helpful in improving their vocabulary knowledge, and they also recommended several ways that it could be improved.

Yildiz, S. (2012). Use of iPad Applications to Introduce English as a Foreign Language to Young Turkish Learners. 2012 *CALICO Symposium*, University of Notre Dame, June 14–16, South Bend, Indiana.

> This conference presentation describes the pilot testing of iPad-based English learning apps with young monolingual Turkish children and outlines the design of a mobile L2 English vocabulary acquisition system for such learners. Eight pre-schoolers in Turkey freely explored four children's English vocabulary programs for a period of seven weeks. On the basis of this experience, 10 learning objects with a bilingual English/Turkish interface are being designed in separate thematic units to expose children to basic English vocabulary.

Yin, C., Ogata, H., Tabata, Y., & Yano, Y. (2010). Supporting the acquisition of Japanese polite expressions in context-aware ubiquitous learning. *International Journal of Mobile Learning and Organisation*, *4*(2), 214–234. Retrievable from http://www.inderscience.com

> This Japanese paper describes the design and user evaluation of JAPELAS2, an enhanced collaborative prototype version of the context-aware vocabulary system described in Yin et al. (2004). JAPELAS2 is based on a PDA+GPS/RFID/Web infrastructure that allows users to interact with multiple partners and share information about polite Japanese expressions with other students. Based on a survey of about 10 L2 Japanese university students who trialed the system for 90 minutes, the vocabulary presented was appropriate and useful.

Yin, C., Ogata, H., Yano, Y., & Oishi, Y. (2004). Supporting Japanese polite expressions learning using PDA towards ubiquitous learning. *The Journal of Information and Systems in Education*, *3*(1), 33–39. Retrievable from http://yebisu.cc.kyushu-u.ac.jp

This Japanese paper reports on a user survey evaluation of a lab experiment involving the context-aware JAPELAS vocabulary learning system based on the PDA+GPS/RFID/Web infrastructure described in Ogata and Yano (2004c). In this experiment, 18 native-speaker Japanese high school students and 10 L2 Japanese university students used the system to provide polite Japanese expressions for a role play. Both groups of students expressed satisfaction with the system, but no objective learning effectiveness data is provided.

Yonally, D., & Gilbert, S. (1995). Electronic dictionaries in the classroom!? Bah, Humbug!. *The Internet TESL Journal*, *1*(1), n.pag. Retrievable from http://iteslj.org

> This is a brief article about the availability in Japan of handheld English/Japanese e-dictionaries for use by L2 learners of English and Japanese. The article enthusiastically and uncritically promotes the use of these devices for L2 learners, enumerating their general advantages for teachers and learners of both languages.

Zhang, F. (2012). Combining the body and mobile technology to teach English pronunciation**.** In F. Zhang (Ed.), *Computer-enhanced and mobile-assisted language learning: Emerging issues and trend*s (pp. 202–219). Hershey, PA: IGI Global. Retrievable from http://www.igi-global.com

Zhang, H., Song, W., & Burston, J. (2011). Reexamining the effectiveness of vocabulary learning via mobile phones. *Turkish Online Journal on Educational Technology*, *10*(3), 203–214. Retrievable from http://www.tojet.net

> This Chinese study investigates the effectiveness of rote learning L2 English vocabulary via mobile phone SMS compared to printed media. One group of 32 university students studied a total of 130 words delivered via SMS five-at-a-time twice daily for 26 days. A control group of 30 received the same vocabulary on a printed word list, which participants studied at their own pace. The SMS group significantly outperformed the control group on an immediate post-test, but a delayed test indicated no significant difference in vocabulary retention rates.

Zhang, P. (2004). Is the electronic dictionary your faithful friend?. *China English Language Education Association Journal*, *27*(2), 23–28.

Zurita, G., Nussbaum, M., & Sharples, M. (2003). Encouraging face-to-face collaborative learning through the use of handheld computers in the classroom. Human Computer Interaction with Mobile Devices and Services. *Springer Verlag Lecture Notes in Computer Science 2795*, 193–208. Berlin, Germany: Springer.

Zurita, G., & Nussbaum, M. (2004a). Computer supported collaborative learning using wirelessly interconnected handheld computers. *Computers & Education 42*(3), 289–314. Retrievable from http://www.sciencedirect.com

> This Chilean paper describes the experimental use of wirelessly linked PDAs in a classroom environment to foster the math and reading ability of L1 Spanish primary school children. The trial ran for 20 days, 35–45 minutes per session. In the language part of the experiment, 21 first graders worked collaboratively in triads to construct Spanish words from three syllables given alternatively on printed cards and via a PDA program. Significant learning gains were noted for both conditions, but the PDA usage fostered better interaction and negotiation.

Zurita, G., & Nussbaum, M. (2004b). A constructivist mobile learning environment supported by a wireless handheld network. *Journal of Computer Assisted Learning 20*, 235–243. Retrievable from http://www.cblt.soton.ac.uk

> This Chilean paper is a follow-up to Zurita and Nussbaum (2004a) and describes a classroom experiment that compares the ability of two groups of 12 L1 Spanish primary school children working in triads to construct Spanish words from three syllables presented to them via either a wirelessly linked PDA program or printed cards. The trial ran for 20 days, 15 minutes per session for the PDA group and 25 minutes for the control. The PDA group had significantly higher post-test scores on word construction with less time on task and less teacher support.

**NOTE**

1. A few of the works have a publication date of 2013, but actually appeared online earlier.

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Jack Burston holds the position of Honorary Research Fellow in the Language Centre of the Cyprus University of Technology. His current research is focused on Mobile-Assisted Language Learning. Jack has been a member of the *CALICO Journal* Editorial Board for the past 10 years. He served as Software Review Editor of the *CALICO Journal* for 13 years and is as a former member and chair of the CALICO Executive Board.

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