

# *A Survey of MALL Curriculum Integration: What the Published Research Doesn't Tell*

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## **ABSTRACT**

Despite the large number of published articles dealing with Mobile-Assisted Language Learning (MALL) applications over the past two decades, very few relate to the curricular integration of mobile technologies beyond initial projects. This situation raises a primary research question as to whether or not MALL implementation publications reflect the actual extent to which MALL has been incorporated into the curriculum.

In order to determine the actual state of curricular integration, an online survey of published MALL practitioners was conducted. The survey established that nearly 60% of initial MALL projects had subsequently led to curricular integration. The factors that most facilitated the integration of MALL into the curriculum are all directly related to the success of the initial project. Institutional factors likewise played an important part in the subsequent incorporation of MALL into the curriculum, with the encouragement of the administration, financial support and technological infrastructure being the most positive in this regard. On the other hand, the lack of financial and technological support was deemed to constitute a substantial negative factor. Likewise, when it existed, curricular flexibility played a major positive role in making MALL integration possible, whereas the absence of curricular flexibility was considered a significant negative impediment. So, too, overall the willingness of colleagues to engage with MALL, their pedagogical training and technological expertise were all viewed as contributing positively to MALL integration, though not without a notable level of negative influence.

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## **KEYWORDS**

MALL, MALL Publications, Mobile Learning, Curricular Integration, Mobile Devices

## **INTRODUCTION**

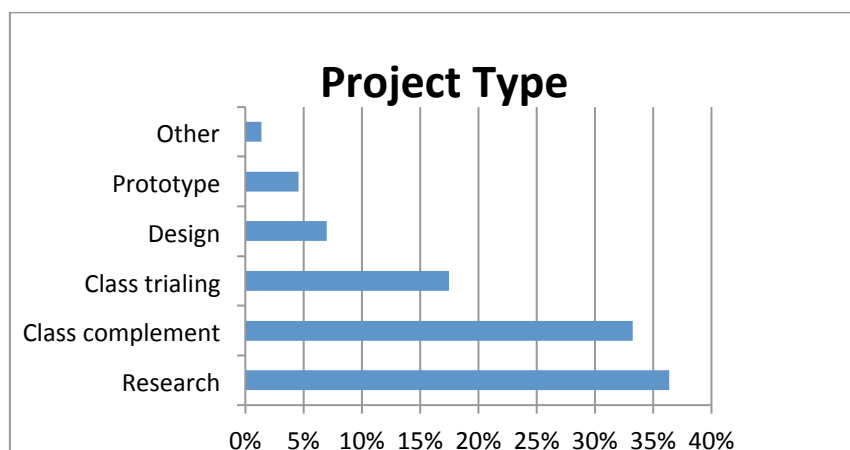
Proponents of Mobile-Assisted Language Learning (MALL) have been heralding for many years the educational revolution that the use of mobile devices would bring. For some (Cavus & Ibrahim, 2008; Fallahkhair, Pemberton, & Griffiths, 2007), the MALL revolution was already a *fait accompli* even before the end of the past decade:

Integrating Mobile Assisted Language Learning (MALL) technology (personal multimedia players, cell phones, and handheld devices) into the foreign language curriculum is becoming commonplace in many secondary and higher education institutions. (Abdous, Camarena, & Facer, 2009, 76)

Such claims, however, are at variance with the accounts of MALL application projects that have been published over the past 20 years. While it is certainly true that between 1994-2012 over 345 experimental MALL implementations were undertaken, few of these have actually been integrated into the curriculum in any substantial way and even fewer have been pedagogically innovative, let alone revolutionary (Burston, 2014).

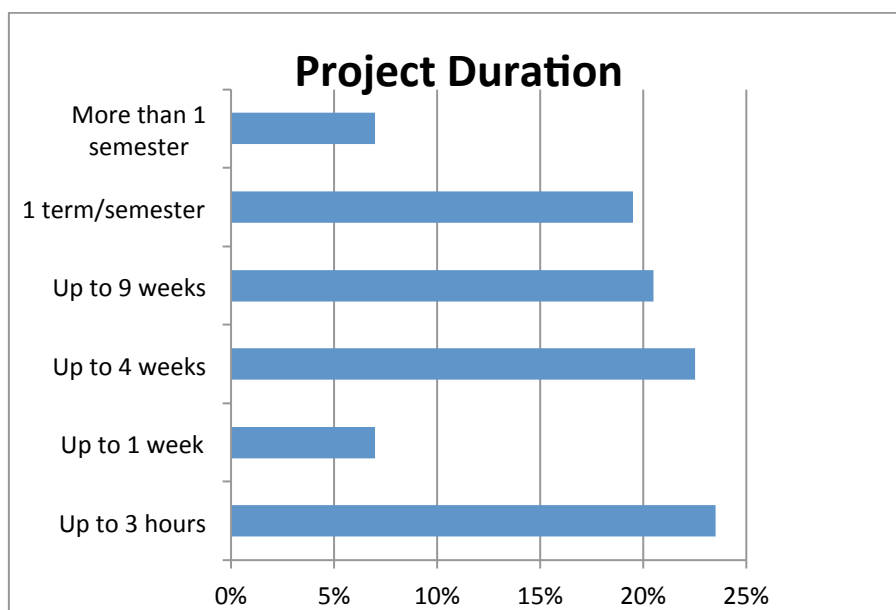
As detailed in Burston (2013), with regard to the context of MALL implementations, it is important to note their overwhelming short-term research orientation. Only about a third of MALL applications have actually formed part of a course curriculum, and nearly all of these as a voluntary complement. The remainder consists of pure research, limited class trialing, design descriptions, prototype testing, lab experiments and field testing (Table 1).

**Table 1**  
**MALL Project Types**



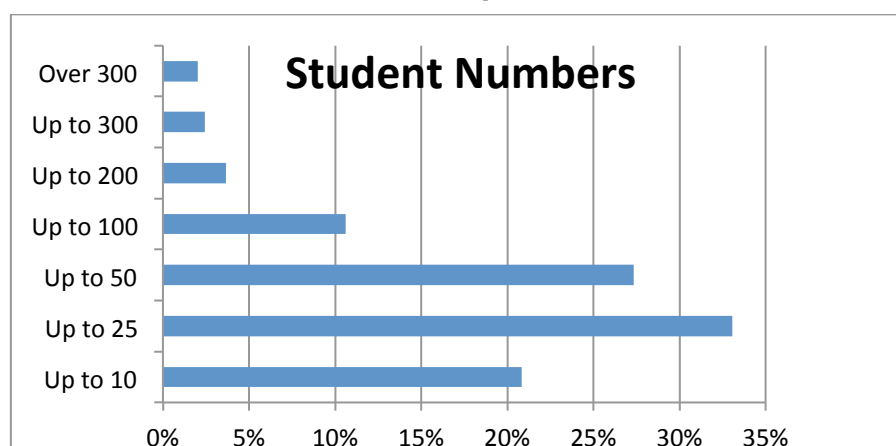
Likewise, only about a quarter of all MALL implementations have taken place over an entire academic term or more (Table 2). About 30% were trialed for only a week or less, with more than three quarters of these lasting less than three hours and some no more than five to ten minutes.

**Table 2**  
**Duration of MALL Projects**



So, too, the number of learners involved in MALL implementations has been limited (Table 3). Only 8% of the cohorts consisted of more than 100 participants. Over half involved no more than 25, with well over a third of these groups consisting of no more than 10 learners and some as few as four.

**Table 3**  
**Number of Students Involved in MALL Implementations**



### LITERATURE REVIEW

As discussed in Burston (2014), 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. Space does not permit dealing with all these MALL publications here, but readers interested in obtaining a more comprehensive account of this bibliography may consult Burston (2013) which includes annotations and web links to nearly all of these publications.

What is most notable in published MALL implementation studies is not accounts of the integration of MALL into the curriculum but rather the lack of follow-up. Reports of short-term experimental projects have rarely been followed by evaluations of larger scale implementations. Likewise, only three recent MALL implementations involving large numbers of learners over a semester or more have given rise to any published sequels. Stockwell (2010) summarizes the use of mobile phones compared to PCs in studies of a web-based vocabulary program that were undertaken earlier in Japan (Stockwell, 2007, 2008) by a total of 175 university L2 English students. Though the preference to work with PCs declined during this period from over 85% to just under 65%, the great majority of students consistently opted to access vocabulary exercises on non-mobile devices. Abdous, Facer, & Yen (2012) study the effects of integrated vs supplemental podcast usage in American university L2 courses first reported in Abdous et al. (2009). Based on final grades over four years with 337 students of Chinese, French, German, Italian, Japanese, and Spanish, there was no conclusive evidence of learning gains attributable to podcasting. As in the Stockwell studies, only a minority (~28%) of students used mobile devices to listen to course materials. Palalas & Olenewa (2012), drawing upon a number of previous preliminary studies (Palalas, 2009, 2011a, 2011b) which culminated in the PhD dissertation of Palalas (2012), explored the use of the *iPod Touch* as an L2 English for Specific Purposes learning tool. 100 Canadian college students used the device to create personalized audio dictionaries which they posted to a class website to produce an audio-visual idiom definition repository. Although there were no formal pre-and post-tests, high levels of language learning were perceived by students and instructors.

At best, the above studies only hint that MALL is being incorporated into the foreign language curriculum. Logically, the absence of published MALL follow-up integration studies could be interpreted as indicating that curricular integration is simply not taking place, i.e., there is nothing about which to report. On the other hand, it could be that MALL is in fact being incorporated into the foreign language curriculum, but that

this development is not reflected in the published literature, i.e., MALL practitioners are not writing about the courses into which they have incorporated a MALL component.

### THE MALL SURVEY DESCRIPTION

In order to determine the actual state of curricular integration, an online survey of published MALL practitioners was conducted in the Fall of 2012. The survey sought to answer the following research questions:

- 1) Is the extent of MALL curricular integration greater than what is reflected in published MALL implementation studies?
- 2) If so, how extensively has MALL been incorporated into the curriculum?
- 3) What are the factors that have facilitated or hampered curricular integration?

The MALL survey was conducted during a six-week period from October 1-November 15, 2012. E-mail requests to complete the survey were addressed to a total of 138 authors of over 340 MALL application studies published between 1994 and 2012. These papers were written by a total of some 185 primary authors, but it was only possible to obtain a current e-mail address for 138 of these. This represents nearly 75% of the authors in the database. Of the 138 potential contributors, 70 completed the survey, i.e., over 50%. Since online surveys on average have a response rate of about 30% (Assess teaching, 2011), this represents a very good result. One, incidentally, that was achieved by individually personalized response requests and numerous follow-up reminders.

The survey (see appendix) consisted of 5 general questions with open responses relating to the identity of the author and project followed by 20 Likert scale questions pertaining to the details of the project and its curricular implementation. In addition, two open-ended questions at the end of survey invited participants to indicate (1) factors that facilitated or inhibited the curricular integration of MALL and (2) reasons to pursue MALL development and integration. At the mid-point of the Likert scale questions, responders were asked whether it had been their original intent to integrate MALL into the curriculum and whether or not they ultimately did so. For those who responded negatively to both these questions, the survey terminated at this point since the remaining questions all related to curricular integration. This affected 8 of the 70 completed surveys.

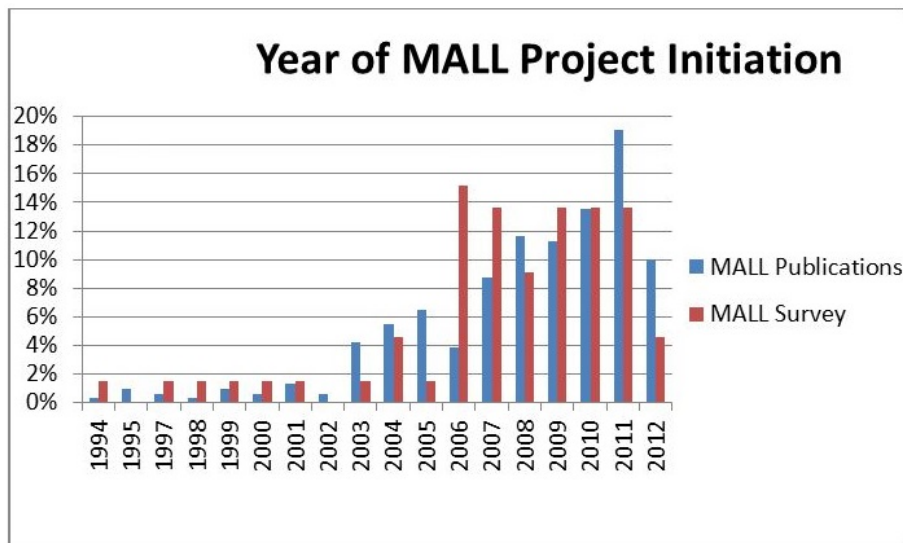
### COMPARISON OF MALL PUBLICATION AND SURVEY CHARACTERISTICS

Before considering the results of the MALL survey, it is important to establish how the projects that it represents compare to those described in the published research. As reference points, nine critical parameters were selected. Five of these were non-linguistic and four linguistic. The non-linguistic parameters consisted of the year in which the project began, the countries and educational environments in which it was undertaken, the project orientation and the mobile devices used. The linguistic parameters were the target language, whether it was L1 or L2, the language proficiency of the participants and the targeted language skills.

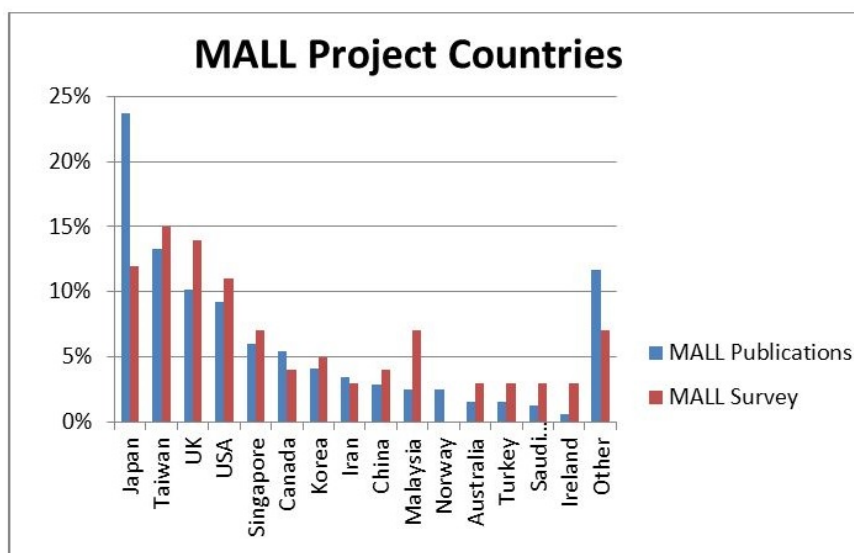
#### ***Non Linguistic Parameters***

The earliest projects (1994-2002) make up only a small percentage in both the MALL publications (6%) and the survey (9%) (Table 4). Fewer projects from the first decade (1994-2005) are included in the survey (17%) compared to the MALL publications (22%). So, too, more recent studies (2006-2012) are represented in the survey (83%) than in the MALL publications (78%). This overall bias towards more recent projects may have been due to their authors being more likely to be currently involved in MALL and thus more inclined to respond.

**Table 4**  
**Year of MALL Project Implementation**

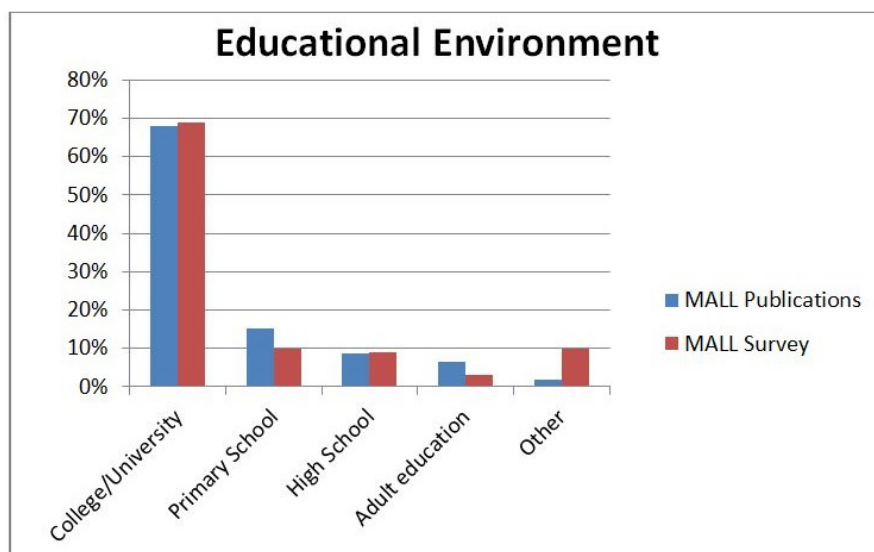


**Table 5**  
**MALL Project Countries**



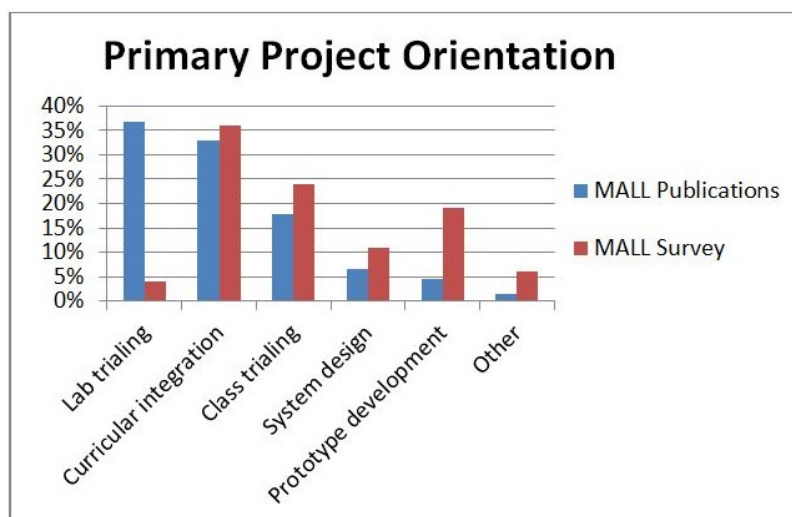
In the survey, as in the published MALL research, Japan and Taiwan represent the greatest locations of MALL implementations, together accounting for over a quarter of the total (Table 5). However, the relative proportion of Japanese studies is only half that in the survey (12%) compared to the MALL publications (24%). In both the former and the latter, the UK and US represent the third and fourth most frequent sources of MALL application projects, though their combined relative presence is higher in the survey (25%) than in the MALL publications (19%). Although on an individual basis the participation of other countries remains low, overall their combined total remains substantial and represents 42% in the survey compared to 32% in the published research.

**Table 6**  
**Educational Environment**



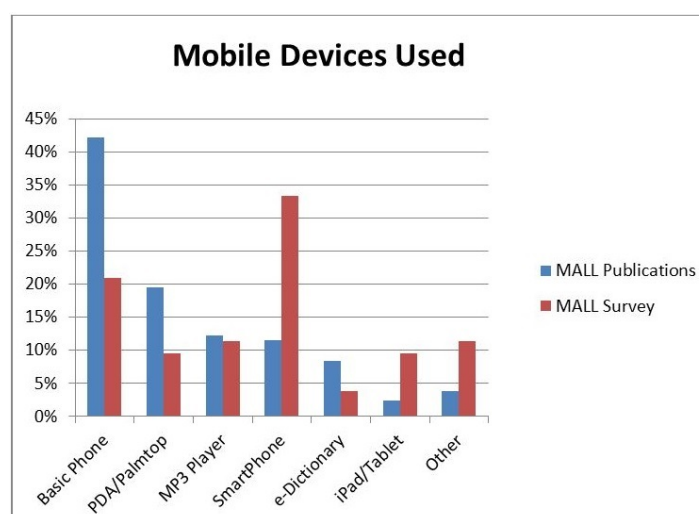
In terms of the educational environment in which MALL projects were conducted (Table 6), the results of the survey and MALL publications are basically the same. In both, nearly 70% of all projects involved adults in colleges and universities. Fewer studies took place in primary school and adult education in the survey, but these numbers are not high in the published research either.

**Table 7**  
**Project Orientation**



With regard to project orientation, it is in the area of research-based lab trialing that the survey differs the most from published MALL studies (Table 7). Whereas 37% of MALL publications are related to purely research-based investigations, only 4% of the projects in the survey were. So, too, projects related to system design, prototype development and class trialing as a group are all much more frequent in the survey (54%) than in MALL publications (30%). That the survey would be more slanted towards application than pure research is not all that surprising given that its focus was on curricular implementation. Logically, one could expect that those whose interests in MALL were primarily on investigating research questions rather than curriculum development would be less inclined to participate in the survey.

**Table 8**  
**Mobile Devices Used**

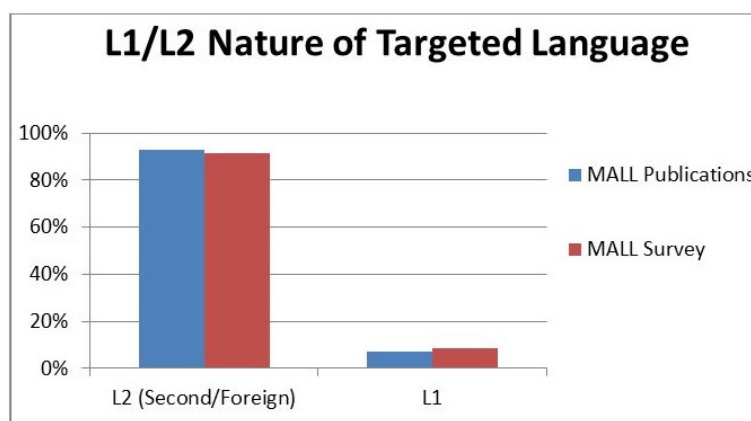


Projects involving more recent mobile devices are much more numerous in the survey than in published MALL studies (Table 8). The use of basic mobile phones (21%), PDAs (10%) and e-dictionaries (4%) is exactly half of that recorded in MALL publications. Correspondingly, smartphone usage (33%) is three times greater and tablet PCs (9%) nearly five times more frequent in the survey. Only MP3 usage remains the same in both the survey and published research. The shift to smartphones is not at all unexpected inasmuch as they effectively replaced PDAs years ago and already represent nearly a quarter of the installed mobile phone base worldwide (Ahonen, 2012). In fact, the installed smartphone base is now nearly equal to that of desktop PCs (Rowinski, 2013). Similarly, dedicated e-dictionaries have given way to software programs running on smartphones and tablet pcs.

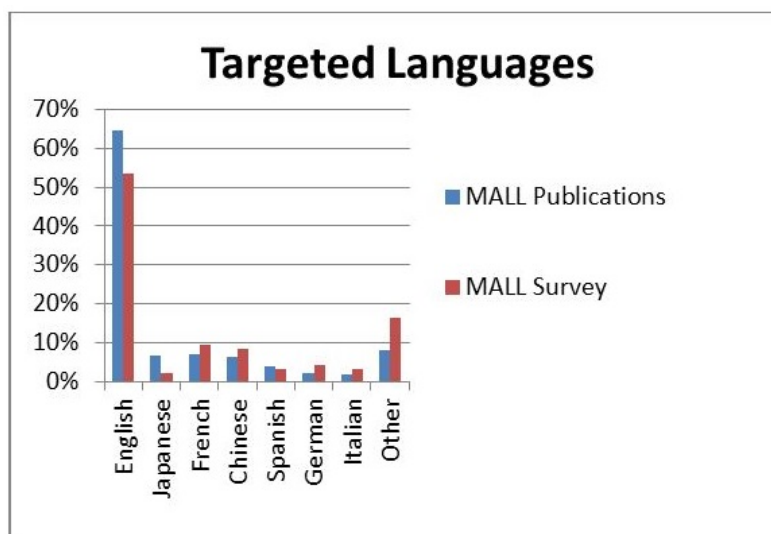
### ***Linguistic Parameters***

As in the published MALL studies, over 90% of projects in the survey targeted second/foreign languages (Table 9). So, too, English remains by far the most frequently occurring language in both, though its relative proportion is markedly less in the survey (54%) compared to MALL publications (65%) (Table 10). Correspondingly, with the notable exception of Japanese, other languages are overall considerably more represented in the survey (44%) than in MALL publications (29%).

**Table 9**  
**L1/L2 Nature of Targeted Language**

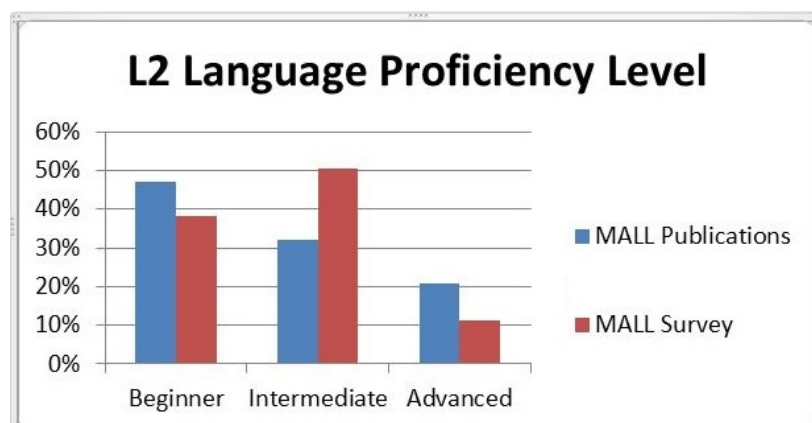


**Table 10**  
**Targeted Languages**



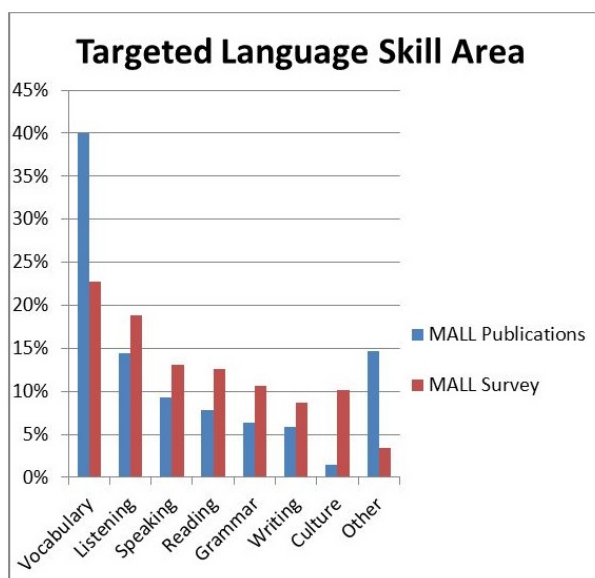
In both the MALL publications and survey, projects targeting advanced L2 learners remain clearly in the minority (Table 11), even more so in the latter (11%) than in the former (21%). Moreover, the survey manifests a much greater proportion of intermediate learners (51%) than in published MALL articles (32%), with a corresponding decrease in the number of beginners (38%) compared to the published works (47%).

**Table 11**  
**L2 Language Proficiency Level**





**Table 12**  
**Targeted Language Skill Area**



While vocabulary continues to attract the greatest deal of attention in MALL projects (Table 12), its predominance is diminished by nearly half in the survey (23%) compared to MALL publications (40%). Correspondingly, the survey also manifests a notably greater focus on other traditionally targeted skill areas, most especially culture, with only a fifth as many disparate “other” areas than in published articles.

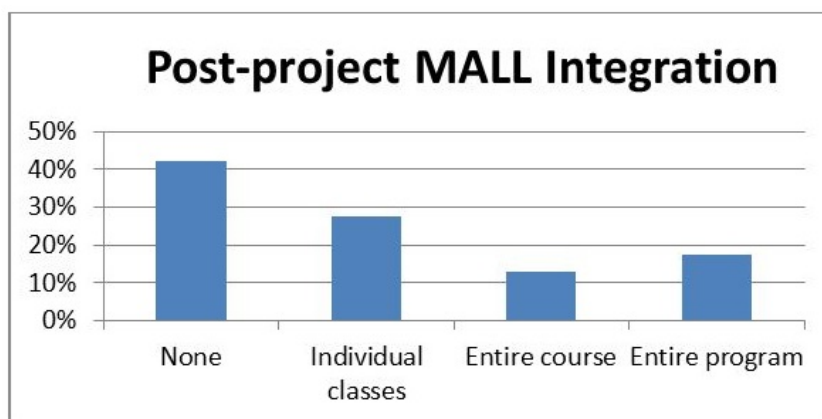
### **Overall Comparison**

Overall then, the survey parameters are comparable to published MALL articles with regard to the emphasis on L2 students in universities, the predominance of Japan and Taiwan as project initiators, the preponderance of English and the focus on vocabulary skills. On the other hand, the relative proportion of the last three dominating factors is substantially less in the survey, making it more diverse in regard to the countries in which the reported projects were undertaken, the languages studied and skill areas targeted. The survey also differs from existing MALL implementation publications in that it reflects more recent projects with a greater focus on intermediate level learners. So, too, given the more recent nature of the projects reported, not surprisingly PDAs and basic phones give way in the survey to smartphones and tablet PCs. The greatest, and arguably most predictable, difference between the survey and published MALL articles is the virtual absence of purely research driven projects in the survey and a corresponding focus on the development and implementation of curricular applications.

### **EXTENT OF MALL CURRICULAR INTEGRATION**

As can be seen in Table 13, nearly 60% of survey responders reported that they in fact followed up their initial project by incorporating MALL into the curriculum. About half of this integration (28%) occurred at the level of individual classes. The remainder was split more or less equally between the incorporation of MALL into an entire course (13%), e.g., all the sections of Spanish 101, or into an entire program (17%), e.g., ESL Studies.

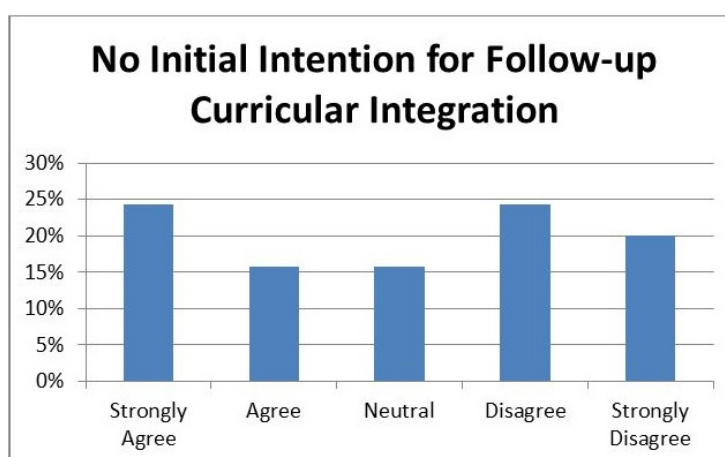
**Table 13**  
**Post-project MALL Integration**



The fact that nearly 60% of the projects in the MALL survey subsequently resulted in curricular integration unequivocally answers in the positive the first research question of this paper: considerably more curricular integration of MALL has taken place, and is taking place, than is evident from the published MALL implementation literature. It likewise answers the second research question by establishing that MALL integration extends from the level of individual classes through to entire programs of study.

While the first two research questions have thus been answered, the result raises a major question in the process: how could some 345 published studies so massively underrepresent the extent of MALL curricular integration? Of all these projects, only some 7% lasted more than a semester and of these only three (Abdous et al., 2012; Palalas & Olenewa, 2012; Stockwell, 2010) follow up on initial course implementation. Part of the answer to this question may be deduced from a survey question regarding the original intention of authors to integrate MALL into the curriculum. With regard to the 42% of survey responders whose MALL project did not result in curricular integration (Table 13), it is important to note that nearly the same total number agreed (16%) or strongly agreed (24%) that they never had any intention of incorporating MALL into the curriculum (Table 14).

**Table 14**  
**No Initial Intention for Follow-up MALL Integration**



This lack of intent to integrate MALL into the curriculum could in large measure account for the absence of follow-up integration studies in the published MALL literature. A second very obvious contributing factor to the discrepancy between published MALL articles and the survey regarding post-project integration is the virtual absence in the survey of purely research projects, which constitute 37% of the MALL publications. Had

this cohort, which by definition had no interest in curricular implementation, been fully represented in the survey, the extent of reported MALL integration would certainly have been far less. Notwithstanding, even assuming a worst case scenario in which the 50% of those who did not respond to the survey all had no intrinsic interest in curriculum development, the fact would remain that some 30% of all MALL projects have led to curricular integration. One can only conclude that the great majority of those who are incorporating MALL into their curriculum are not writing about it in published articles.

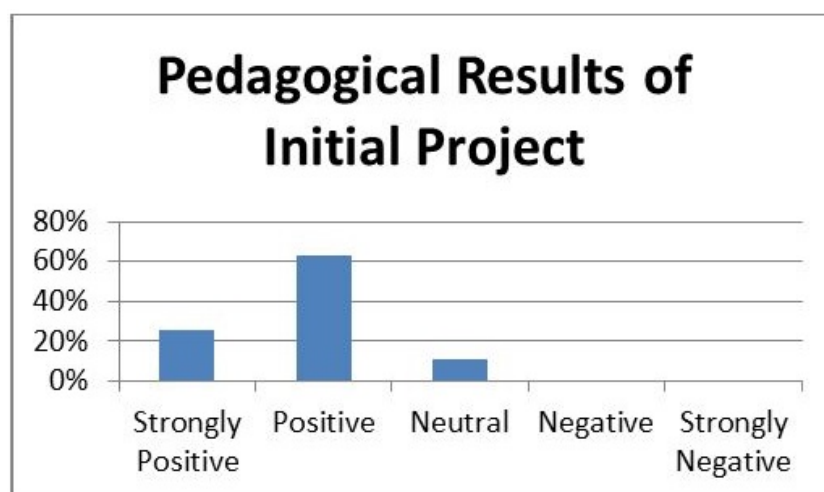
### CRITICAL FACTORS IN MALL CURRICULAR INTEGRATION

To understand the factors that fostered or inhibited MALL integration, the third research question, the survey sought a Likert scale response relating to ten possible contributing influences ranked relative to five reactions: Strongly Positive, Positive, Neutral, Negative, Strongly Negative. Positive responses were equated with factors that facilitated MALL curricular integration; negative responses with those that obstructed it.

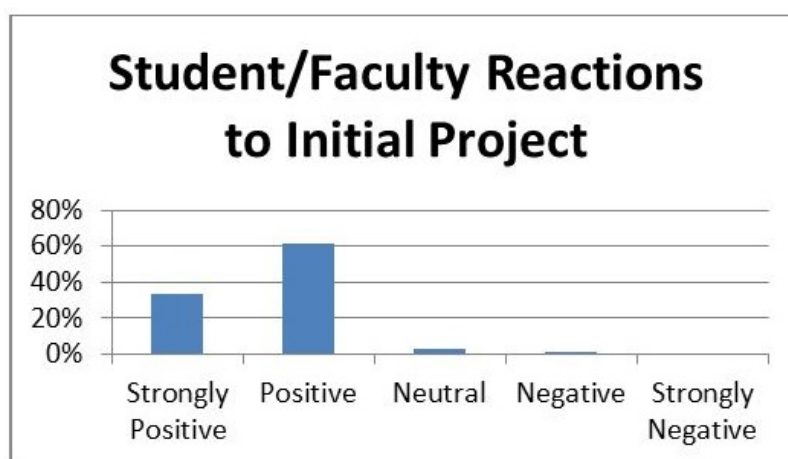
#### Initial Reactions

By far, the strongly positive pedagogical results (26%) and reactions of students and faculty (34%) were identified as the most influential factors in bringing about the subsequent integration of MALL into the curriculum (Tables 15-16).

**Table 15**  
**Pedagogical Results of Initial Project**

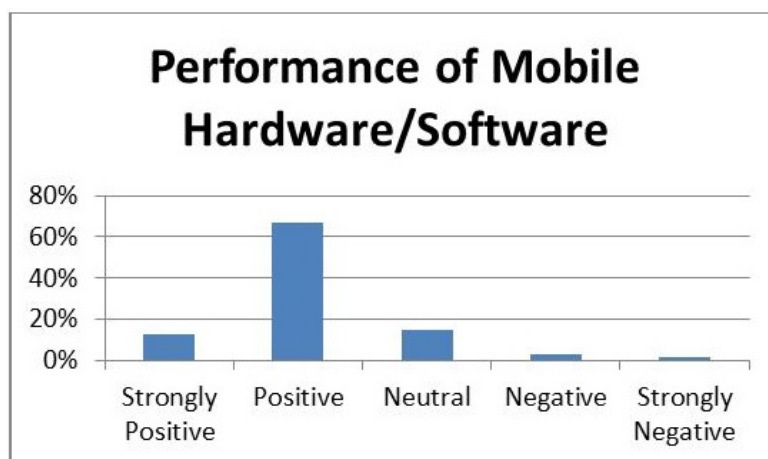


**Table 16**  
**Student/Faculty Reactions to Initial Project**



When combined, the two positive response poles relating to pedagogical success amount to 89%. The combined positive total for student and faculty reactions is even greater at 95%. Also high on the list of factors contributing to the curricular integration of MALL was the performance of the mobile devices themselves, which scored a combined positive total of 80% (Table 17).

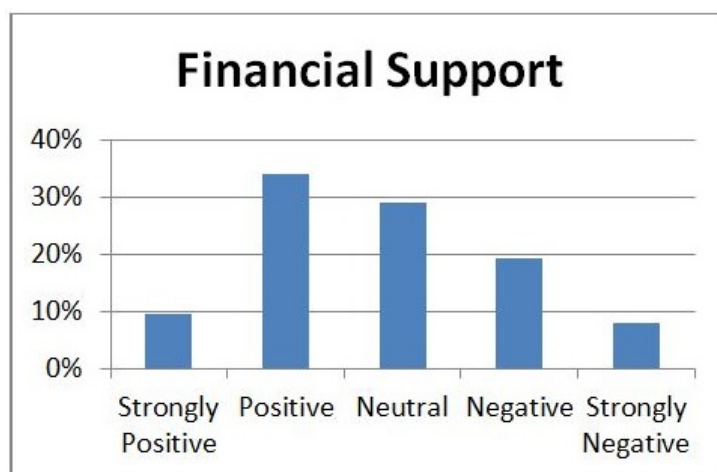
**Table 17**  
**Performance of Hardware/Software**



### ***Institutional Factors***

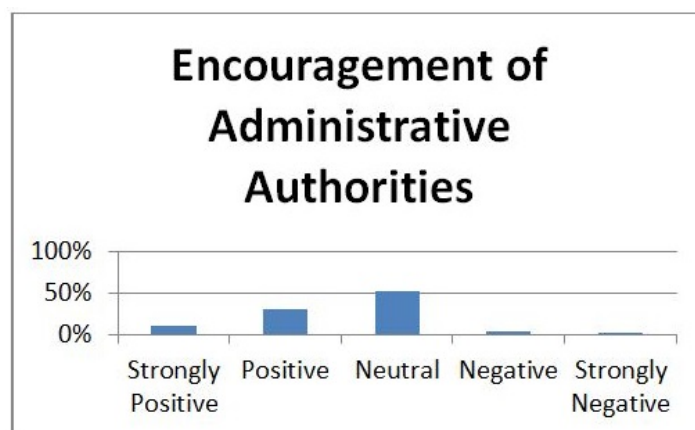
Lack of financial support had the greatest negative impact upon the incorporation of MALL into the curriculum (Table 18). When combined, the negative response poles relating to financial support constitute 27% of the responses. On the other hand, when it was provided, financial support ranked as a major contributing factor facilitating MALL integration, with a combined positive total of 44%.

**Table 18**  
**Financial Support**



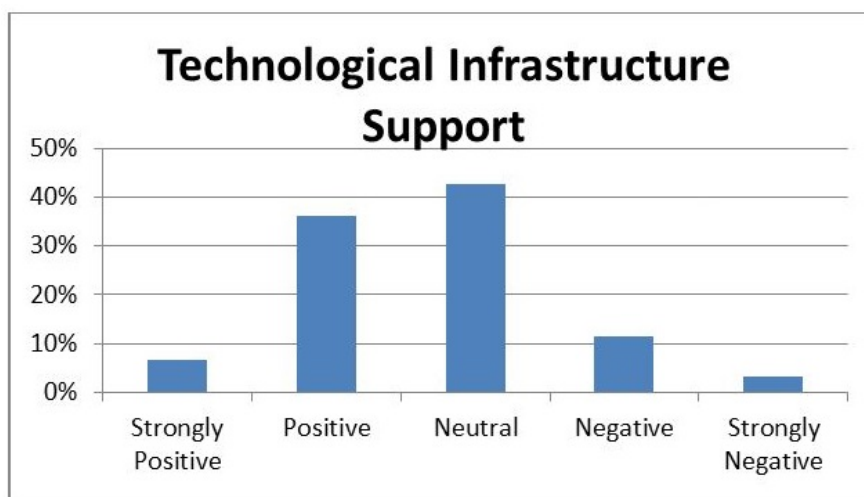
This 44% combined positive total for financial support equated with that relating to the encouragement received from administrative authorities, which interestingly manifested a very low (7%) overall negative rating (Table 19).

**Table 19**  
**Encouragement of Administrative Authorities**



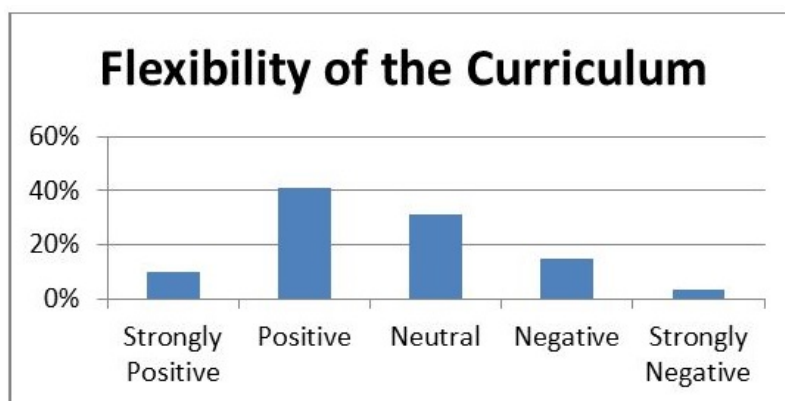
While technological infrastructure support was only ranked a strongly positive factor in curricular integration by 7% of responders (Table 20), it was considered at least positive by another 37%. That being said, the negative effect of infrastructure support was noted by a total of 14% of responders.

**Table 20**  
**Technological Infrastructure Support**



With a combined positive rating of 51%, curricular flexibility was regarded as contributing even more than technological infrastructure support to MALL curricular integration (Table 21), but it also garnered a substantial negative rating (18%), second only to financial support.

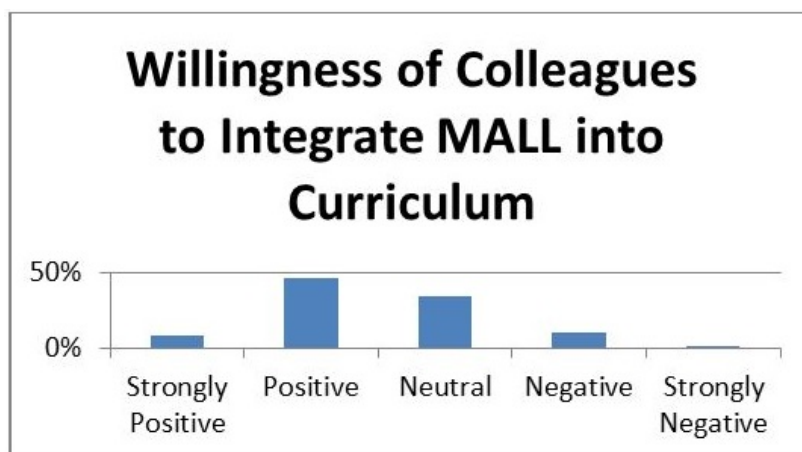
**Table 21**  
**Flexibility of the Curriculum**



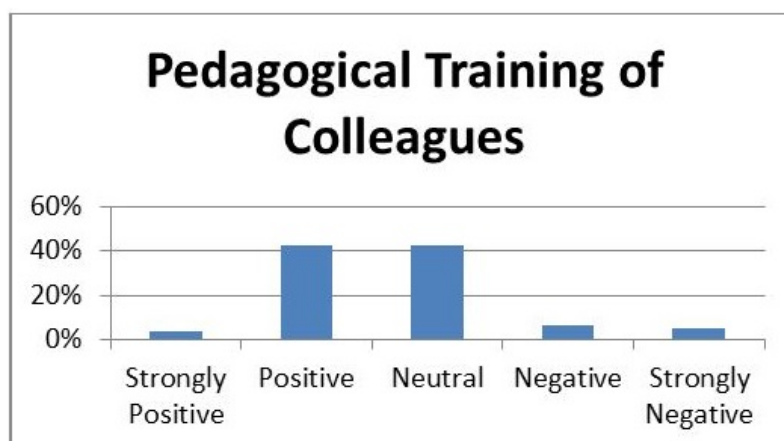
### **Faculty Involvement**

Besides being the most strongly positive initial encouraging factor (Table 16), the positive influence of faculty was also ranked highly in the subsequent incorporation of MALL into the curriculum, with the willingness of colleagues to integrate MALL into the curriculum scoring a positive total of 54% (Table 22). As with the effect of curricular flexibility, however, this positive rating was not without a notable amount of negative responses (12%). Similar results were reflected in regard to role played by the pedagogical training of colleagues, with a total of 45% positive and 12% negative rankings (Table 23).

**Table 22**  
**Willingness of Colleagues to Integrate MALL into the Curriculum**

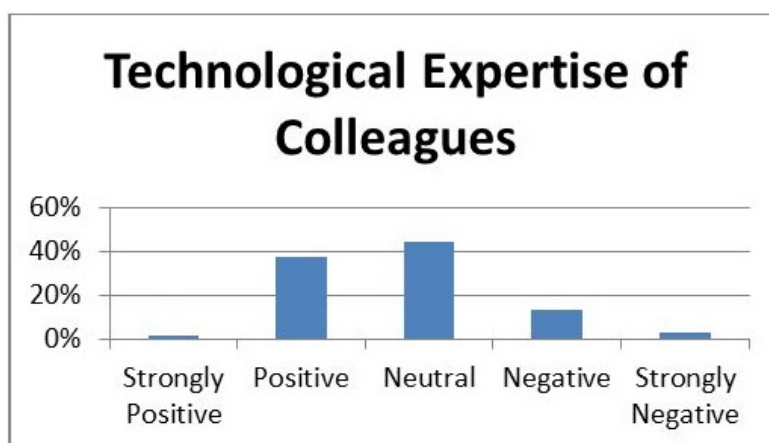


**Table 23**  
**Pedagogical Training of Colleagues**



Though overall still quite positive (39%), it is in the area of technical expertise that the influence of colleagues upon MALL integration was the most negatively perceived, with a total combined negative ranking of 17% (Table 24).

**Table 24**  
**Technological Expertise of Colleagues**



### OPEN-ENDED COMMENTS

In addition to the Likert scale questions, the survey also gave responders the opportunity to add open-ended comments about (1) the factors that had facilitated or impeded the incorporation of MALL into the curriculum and (2) reasons for pursuing MALL curriculum integration. Considering the low response rate that open-ended questions usually attain, that of these two questions was exceptionally high: 73% for the first and 67% for the second.

Many of the open-ended comments relating to the factors facilitating or impeding MALL integration repeated those covered by the Likert scale questions: financial support, technological infrastructure, curricular flexibility, the willingness of colleagues to engage with MALL. In addition a number of related, inhibiting, factors were also highlighted. These included mobile device accessibility, technical obsolescence, logistical problems, and the exam orientation of courses. Also mentioned was the difficulty of expanding MALL implementation beyond the individual class level as a result of curricular inconsistencies within courses, the lack of permanent teaching staff, and time constraints. Some issues relating specifically to students were also cited. These included unexpected learning curves in using mobile-based hardware and software, indifference or even opposition to technology usage, and ingrained learning habits resistant to pedagogical innovation.



The justification for integrating MALL into the curriculum focused on four main factors. The most immediate derived from the perceived success of projects in terms of pedagogical gains and motivational effect. MALL should continue to be developed and incorporated into the curriculum because it was effective and appealed to students. More broadly, MALL was seen as the means of promoting pedagogical innovation that could blend formal and informal learning. Likewise, because of the flexible access mobile technology provides, it was felt that the integration of MALL into the curriculum would foster autonomous, out-of-class, foreign language acquisition. It was also mentioned more than once that net-gen students simply expected mobile learning to be part of the curriculum.

## CONCLUSION

Despite the large number of published articles dealing with MALL applications over the past two decades, very few relate to the curricular integration of mobile technologies beyond initial projects. This situation raised a primary research question as to whether or not MALL implementation publications reflected the actual extent to which MALL has been incorporated into the curriculum. If not, two other questions required answering:

- 1) To what extent has MALL been integrated?
- 2) What were the factors that facilitated or hindered this integration?

To answer these questions, an online survey was addressed to a cohort representing nearly three quarters of the authors of some 345 MALL application studies, over half of which completed it. The survey established that nearly 60% of initial MALL projects had subsequently led to curricular integration. However, given the very low level of research-based projects in the survey, which in MALL implementation studies account for the greatest number of publications, the actual extent of MALL integration would most likely be less than survey responses indicated. Nonetheless, taking this into account, even the most conservative estimate would have to recognize that about 30% of all projects have led to MALL being incorporated into the curriculum. The survey also established that about half of MALL integration had occurred at the level of individual classes, with the remainder split between incorporation within multi-section courses and entire programs of study.

The factors that most facilitated the integration of MALL into the curriculum are all directly related to the success of the initial project: positive pedagogical results, strong support from students and faculty, and the performance of the mobile devices themselves. Institutional factors likewise played an important part in the subsequent incorporation of MALL into the curriculum, with the encouragement of the administration being the most positive in this regard. Other institutional factors cut both ways. When financial support was forthcoming and technological infrastructure supportive, this had a considerable positive effect upon MALL integration. On the other hand, the lack of financial and technological support was deemed to constitute a substantial negative factor. Likewise, when it existed, curricular flexibility played a major positive role in making MALL integration possible, whereas the absence of curricular flexibility was considered a significant negative impediment. So, too, overall the willingness of colleagues to engage with MALL, their pedagogical training and technological expertise were all viewed as contributing positively to MALL integration, though not without a notable level of negative influence. These observations were confirmed in the survey's open-ended responses, which added a number of specifically inhibiting factors including those deriving from students themselves. Lastly, based on their positive experiences, survey responders were at no loss to justify the continuing development of MALL and its integration into the curriculum.

## LIMITS OF THE SURVEY

As indicated at the outset, although similar to the published MALL implementation studies in many critical respects, the survey undertaken here differs from them in some important ways. Firstly, not all authors were contacted and of those who were only half completed the survey. Moreover, the academic interest in MALL of those who responded to the survey was very much more inclined towards curriculum development than the authors of MALL implementation studies in general. With regard to country of origin,



language studied and skills targeted, the survey manifests more diversity than that found in published MALL literature. So, too, the survey is more representative of more recent projects with a correspondingly greater focus on the exploitation of more recent mobile devices. Taking these differences into consideration, however, the extent of MALL curricular integration revealed by the survey can be assumed with reasonable certainty to accurately reflect a current state of affairs that is not otherwise apparent in published research. Given the necessary administrative support, funding and curricular flexibility, substantial numbers of initial projects are now regularly being followed up by incorporation into the foreign language curriculum.

## ACKNOWLEDGEMENTS

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## APPENDIX: MALL SURVEY

\*1. You may report the results of this survey with identifying details:

- ☐ Yes  
☐ No

2. Project/application name, if any:

\*3. Name of lead developer(s)/researcher(s):

4. Year began:

5. Year ended (if still running, enter "ongoing"):

6. Mobile device (select all that apply):

- basic phone
- smartphone
- PDA/palmtop
- iPad/tablet
- handheld e-dictionary
- iPod/MP3 player
- Other (please specify)

7. Language being studied (select all that apply):

- English
- French
- Italian
- Spanish
- German
- Japanese
- Chinese
- Other (please specify)

8. Language type (select all that apply):

native language  
second language  
foreign language

9. Proficiency level of targeted learners (select all that apply):

beginners  
intermediate  
advanced

10. Primary project orientation (from idea focus to integrated application):

system design  
lab trialing  
prototype development  
class trialing  
curricular integration  
Other (please specify)

11. Targeted learning environment:

primary school  
secondary school  
college/university  
adult education  
independent study

12. Targeted learning area (select all that apply):

vocabulary  
grammar  
listening  
speaking  
reading  
writing  
culture  
Other (please specify)

13. Initial level of project's curricular integration (from more to less):

entire program, e.g., ESL Studies  
entire course, e.g., First-year French  
individual classes, e.g., Spanish 101, section 1.2  
none, e.g., experimental/device development only

14. We intend/intended to integrate the mobile technology into the curriculum after our initial project.

Strongly Disagree    Disagree    Neutral    Agree    Strongly Agree

15. The original project ultimately led to curricular integration at the following level:

entire program, e.g., ESL Studies  
entire course, e.g., First-year French  
individual classes, e.g., Spanish 101, section 1.2  
none

16. The pedagogical results of the initial project.

Strongly Negative    Negative    Neutral    Positive    Strongly Positive

17. Reactions of students and faculty to the initial project.

Strongly Negative    Negative    Neutral    Positive    Strongly Positive

18. The encouragement of administrative authorities.

Strongly Negative    Negative    Neutral    Positive    Strongly Positive

19. The financial support obtained from the institution and/or commercial producers.  
Strongly Negative    Negative    Neutral    Positive    Strongly Positive

20. The technological infrastructure support obtained either from the institution and/or commercial producers.

Strongly Negative    Negative    Neutral    Positive    Strongly Positive

21. Performance of relevant mobile hardware and/or software.

Strongly Negative    Negative    Neutral    Positive    Strongly Positive

22. The willingness of colleagues to integrate mobile technology into the curriculum.

Strongly Negative    Negative    Neutral    Positive    Strongly Positive

23. The pedagogical training of colleagues.

Strongly Negative    Negative    Neutral    Positive    Strongly Positive

24. The technological expertise of colleagues.

Strongly Negative    Negative    Neutral    Positive    Strongly Positive

25. The flexibility of the curriculum.

Strongly Negative    Negative    Neutral    Positive    Strongly Positive

Please add whatever general comments you would like to make regarding curricular integration of mobile-assisted language learning.

26. Factors which facilitated or inhibited further MALL development and curriculum integration:

27. Reasons to pursue MALL development and curriculum integration:

### **AUTHOR'S BIODATA**

Jack Burston holds the position of Honorary Research Fellow in the Language Centre of the Cyprus University of Technology. He is a language-teaching specialist with a formal background in theoretical and applied linguistics, second language acquisition and testing. He also has considerable expertise in computer-assisted language learning, foreign language software evaluation, language centre design and professional faculty development. His current research is focused on Mobile-Assisted Language Learning. Jack was a member of the Editorial Board of the *CALICO Journal* for 19 years, served as Software Review Editor of the *CALICO Journal* for 13 years and is a former member and chair of the CALICO Executive Board. He was the Editor of the *IALLT Language Center Design Kit* and the *Digital Language Lab Solutions* volume.

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