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Computer Assisted Language Learning (CALL): Asian Learners and Users going Beyond Traditional Frameworks

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Abstract

Traditional frameworks for understanding Computer Assisted Language Learning (CALL), whilst still useful, are today nevertheless somewhat limited for a variety of reasons, and in many respects, it is the practices of Asian learners and users that are driving forward the need for new thinking in this area. This discussion paper provides an articulation of where such frameworks are located, what they have offered and why we now need to go beyond them. It provides an historical critique of the theory and practice of CALL and then goes on to draw on some of the author's most recent studies, which examine the practices of non-native speaker students of English (NNSSoE) working in independent study contexts. The narrative leads to a proposal that Mobile Assisted Language Use (MALU), together with an educational theory of connectivism, may now provide a better framework for examining technology in self-access centres and elsewhere. This argument, as will become apparent, is being driven in significant measure by the practices of learners and other users from Asia.

Keywords: Computer assisted language learning, mobile assisted language use, Asian learners, tutorial CALL, connectivism

Introduction

Computer assisted learning (CALL) has been with us for over 40 years and there is now a plethora of publications devoted to researching its impact and to discussing implications for practice. Examples include: *Computer Assisted Language Learning* (http://www.tandf.co.uk/journals/titles/09588221.asp), *System* (http://www.elsevier.com/wps/find/journaldescription.cws_home/335/description#description) as well as some free on-line journals such as *Language Learning and Technology* (http://llt.msu.edu/) and *CALL-EJ* (http://callej.org/). The field is clearly well-established, with a healthy and ever growing tradition of research, practice, and dissemination. At its heart is the notion that a desktop or laptop computer explicitly helps our students with input and/or practice activities in order to learn, hence the "assisted learning" part of the CALL acronym. A range of computer programs or Computer-based materials (C-bMs) are used to deliver CALL and are typically characterised as having a valued tutorial function within the classroom and beyond (Jarvis, 2004). To further emphasise the role of the computer in explicitly assisting with input and/or practice activities, a more precise term "tutorial CALL" is often used. Arguably it is such CALL which historically has been at the forefront of discipline specific work within humanities and led Levy (1997) to comment that "… within the field of computers in Education, especially within humanities computing, it is teachers in the area of English as a Foreign Language (EFL) and foreign languages more generally that have been in the vanguard" (p. 3). Whilst today there is certainly richness and diversity in CALL, over the years it is the value and limitations of such tutorial CALL in a variety of forms and contexts, particularly self-access centres, which has dominated the field.

Development of and Issues in CALL

Historical Development of CALL

CALL has, of course, developed and changed significantly since its inception. There have been two driving factors behind such changes, namely, the possibilities offered by the technology and the educational theories which provide a rationale for our practice. In the early days of tutorial CALL, up to the late 1970s and early 1980s, students would typically work on a mainframe computer in a laboratory, library or self-access centre. They would work on one text-based program installed on the hard drive of each computer. They would input answers and receive some kind of feedback such as "correct, well done" or "wrong - try again". Such activities might have replicated the exercises found in a text book or be presented as a game. For example, a favourite was 'hangman' whereby students tried to guess a word by typing in possible letters one by one, the object of the game being to guess the correct word before being hanged. Teachers could buy a ready-made package of exercises (which in the terminology became known as "dedicated CALL") or they could create exercises ("authoring CALL"), which provided an opportunity to tailor activities around specific class-based input (usually grammar or vocabulary). Behaviourism and the work originally developed by Skinner (1954) formed the theoretical base to such activities. Learning was seen as filling empty heads with knowledge and was achieved through rewarding good behaviour with stimuli such as "well done" or punishing bad behaviour with stimuli such as "wrong – try again". Practice makes perfect and repetition leads to the learning was the prevalent framework. Such activities have been characterised as "drill and kill", but this is perhaps a little unfair. They were implemented at a time when students had no access to computers outside their educational institution and as such they were often inherently motivating. Tutorial CALL

was a novelty, and in the case of 'hangman' it was fun, too!

Behaviourism became increasingly discredited in education theory and from the mid 1970s onwards we see a shift away from a view of learning as behaviour, and with this we slowly witness the emergence of more interesting tutorial CALL which is based on an educational theory of cognitivism. Here, the starting premise is that learning is comprised of thinking, constructing or working things out. In language education, we see a shift from seeing language exclusively in terms of structure (grammar) and more in terms of communicative functions. Tutorial CALL now focused on pair or group work activities which involved discussions and were followed by inputting responses into the computer and then responding to output from the computer. In this phase of CALL, we see the emergence of simulation packages such as *The London Adventure* (Hamilton, 1986), which involved students working in small groups to plan a trip round London. Another activity was text reconstruction packages such as *Storyboard* (Jones, 1992) in which students built up a full text on screen by typing in missing words. This era also saw the widespread use of word processors outside the classroom in business contexts, and so tutorial CALL responded by developing activities based on the manipulation of model texts, such as ordering sentences and paragraphs. In addition we see a stress on 'process writing', which focused on writing stages such as brainstorming, drafting and editing, and with this development came the idea of CALL not only as a tutor, but also as a tool (see Jarvis, 1997). During this period, whilst many of the more mechanical exercises of behavioural CALL remained (and are indeed still with us today), there were additional aspects which challenged students to think and work things out.

As CALL moved into the 1990s we see further, and arguably more significant, changes arising out of technological developments, together with a need to consider social

interaction with educational theory. Tutorial CALL in this stage goes beyond being text-based to include multi-media and hypertext which were delivered on what were then new high speed Pentium processors via CD ROMS, but more recently the arrival of broadband delivery has shifted activity to the internet. This represents a particularly significant development in language education as it marks the arrival of multi-media tutorial CALL. For the first time, in addition to grammar, vocabulary and reading and writing activities, it becomes possible to integrate listening, too, and to a lesser extent, accuracy-based speaking activities (pronunciation). During this period we see a rapid growth of multi-media self-study packages, and they became one of the defining characteristics of self-access centres. Later with the arrival and widespread availability of fast internet connections, tutorial CALL could be easily authored using free packages such as Hot Potatoes (http://hotpot.uvic.ca/) and delivered via virtual learning environments such as Blackboard (http://www.blackboard.com/) or Moodle (http://moodle.org/). In educational theory, socio-cognitive views begin to prevail and go beyond the cognitive to emphasise the role of social interaction in learning (Jonassen and Land, 2011). Founded in the work of Vygotsky (1978), learning is viewed as taking place not just through thinking, but also through interaction and negotiation with others – i.e. learning is socially constructed. In language education, this has manifested itself as task-based pedagogy (Ellis, 2003) and in terms of networked computers, students are for the first time interacting with each other via the computer (Warschauer and Kern, 2000). Here we also see the development of the notion 'CALL the medium'.

Tutorial CALL has clearly come a long way from its behavioural roots and there is now a wide variety of opportunities for learners. Knowledge dissemination initiatives such as The Khan Academy (http://www.khanacademy.org/) provide a huge number of free video

resources to teachers and learners across a wide range of academic disciplines. In subject specific disciples such as language education we see smaller scale individual initiatives such as WWW.TESOLacademic.org which gives students of TESOL and Applied Linguistics historically unprecedented access to free web casts from cutting edge leaders in the field and other researchers. As we move to the globalisation of learner autonomy (Schmenk, 2005), the popularity of such sites can only grow and even 'hangman' has become much more fun (see, for example, http://www.cambridgeenglishonline.com/Phonetics_Focus/#)! Today, the importance of input and practice is still recognised as part of an eclectic mix in the teaching and learning process, but few would justify this in terms of overall education theory based on a view that learning is equated with behaviour – we now recognise the significance of thinking and interacting.

A Critique of CALL

Let us briefly critique tutorial CALL before moving on to suggest a need to go beyond this term. Firstly, CALL is essentially a means to an end. The end is specified learning outcomes and the computer assists their realisation in some way, shape or form. The focus is on delivering or assisting "conscious learning". Secondly, it is usually discussed and researched in terms of students working on one C-bM and the extent to which this does or does not assist with learning. Frequently, the research design for such discussions is conducted in fairly controlled contexts. Learners are exposed to treatment (CALL) in the form of working with a particular C-bM in the classroom or self-study centre; thereafter, its effectiveness is measured. Thirdly, CALL is often both characterised and justified as being motivating, a characterisation which arguably goes

back to the days when it was a novelty as students had no access to computers beyond their educational institutions. Fourthly, a desktop or laptop computer historically is central to CALL, and whilst there is an ever- increasing body of work which looks at other devices, the primary term of reference remains, by definition, 'the computer'. As we have seen over the years, there has been a changed underlying educational theory. At one extreme is the behavioural phase of CALL which involved working on a C-bM through mechanical exercises or a game. More recently, the sociocognitive phase might involve a project with on-line chatting to other participants and posting work on a VLE (Virtual Learning Environment). However, in all such examples, the educational theory is essentially independent of the technology. Whilst CALL cannot be separated from such theory, the theory stands alone and is frequently derived from work outside CALL.

Beyond CALL

If we accept even some of our brief critique above and look at recent work in the field, then it suggests a need to go beyond CALL. This, however, does not mean a summary dismissal of over 40 years of CALL research, dissemination and practice, but it does involve recognising a bigger picture. Within language education, by far the largest area of activity globally is Teaching English to Speakers of Other Languages (TESOL), and the argument presented here is drawn from a number of studies over the last 7 years with such NNSS of English in both "host country contexts" (in the UK at Salford University) as well as with Thais and Arabs in their "home country context". The range of research methodologies includes both quantitative and qualitative techniques such as interviews, focus groups, observations and questionnaires. For many students, CALL was not seen primarily as a means to an end at all; rather, learning to operate successfully in a

digitalized world was the end and English was the means to that end. This suggests that "… one of the most important questions for the English Language Teaching (ELT) profession today is less about the role of C-bMs in ELT and more about the role of ELT in a Cb-M dominated environment" (Figura and Jarvis, 2007: 460). Furthermore, NNSS of English tended to view a much wider range of C-bMs as helping them learn English when compared to British students learning other foreign languages. This was reported across a wide range of C-bMs irrespective of whether they had a clear and explicit tutorial function. Many NNSS of English reported activities such as accessing websites for personal information, live chatting or watching YouTube videos as helping them, to some extent at least, with their English (Jarvis, 2012; Jarvis, 2008a).

In language education, Krashen (1982) originally made the distinction between learning, which is viewed as conscious, and acquisition which, in contrast, is unconscious. It is suggested (Jarvis, 2008b) that when applied to an electronic environment, unconscious acquisition is almost certainly taking place through exposure to authentic English from a variety of C-bMs. It is also worth noting that in one study (Jarvis and Szymczyk, 2010), which explicitly focused on the comparative value of paper and computer-based tutorial materials for learning grammar, students actually expressed a preference for books. We have noted a tendency within CALL to focus on one C-bM and yet today's web generation rarely work on only one C-bM at any one time. They are frequent users of technology and they multi-task, which includes social networking and studying; furthermore, they do so in both their mother tongue and the English language. A recent study (Jarvis, 2012) reports that as few as 3.4% of Thai and Emirati NNSS use only their mother tongue even when using computers outside their language studies.

All of these issues suggest a need to revise the traditional view of CALL. It is also

worth noting (Jarvis, 2005) that, in language education, we see the technology impacting on the subject matter itself with computer-mediated-communication varieties of English emerging. How significant is this? It's probably too early to say; perhaps we need to w8nc (wait and see)! There is no novelty value to CALL for these web generation learners who access the internet and other programs all the time in their daily lives. In short, "unconscious acquisition" arising out of frequent access to authentic English through globally networked environments using any number of C-bMs, frequently in combination, suggests a need to go beyond CALL.

Two other factors are worth stressing in this argument. Firstly, the field is clearly no longer just about the desktop or laptop computer – increasingly, it is about a range of other devices. The tutorial value of 'apps' (applications) and tutorial C-bMs on a range of devices, such as mobile phones, iPads, notebooks and tablets, logically takes our terms of reference to Mobile Assisted Language Learning (MALL). It is worth repeating that the tutorial value of technology is set to remain with us. However, the arguments presented here logically take us to the acronym Mobile Assisted Language Use (MALU); such use allows for both conscious learning using tutorial packages as well as unconscious acquisition through accessing and transmitting information in English. It also more fully encompasses the range of devices being used, virtually all of which are now mobile. MALU then serves as a new framework which takes us beyond CALL. Finally, and most controversially, there must be a brief mention of connectivism which has, at its theoretical base, a view that technology changes learning theory from a notion that knowledge is an objective that is attainable through either reasoning or experiences. Siemens (2005) suggests: "How people work and function is altered when new tools are utilized" and that "We can no longer personally experience and acquire learning that we

need to act. We derive our competence from forming connections". For the first time, we are seeing the emergence of an educational theory which cannot be separated from technology.

Conclusion

According to Internet World Stats (http://www.internetworldstats.com/) the vast majority of internet users in 2010 were located in Asia (825.1 million). Considerably way behind, in second and third place, are Europe (475.1 million) and North America (266.2). Moreover, the dominant language is English with an estimated 536.3 million users followed by Chinese (444.9) and Spanish (153.3). It is clear that users throughout Asia and beyond are accessing and communicating information in both their first language and in the English language, and they are doing so for study, business and social purposes. In many ways the practices of such users are driving forward our changed frameworks for undertanding. First and foremost, they are users of English in a globalised world. While the internet is being used to develop their English language, the various studies by Jarvis as cited in this paper suggest that this is largely through unconscious acquisition and it is done with a variety of devices.

Against the background of such significant change, further research, dissemination and discussions are clearly needed. In particular, the proposed MALU framework suggests that whilst we are likely to continuue to need to provide tutorial packages for leanrers, we will also need to provide other opportunities for students to access information and interact with the world using a wide range of devices and operate in the target language. The future is an exciting one, and in many respects, it is being deriven forward not by practititoners but by the student use of a variety of technologies in the English language.

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