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Computers and learner autonomy: trends and issues

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Abstract

This paper reports on a study into the practices and perceptions of Thai and Emerati university students in their use of computer-based materials (CbMs) beyond the classroom, including in Self Access Centres (SACs). Questionnaires and semi-structured interviews in focus groups and one-to-one were utilised to gather information. The data suggests that students made regular and extensive use of a wide range of materials in both their native language and the English language. Students recognised the importance of accessing and transmitting information in the English language. They appeared to make considerable use of CbMs for exposure to and the unconscious acquisition of the English language, particularly beyond a SAC. Where conscious learning of English was reported the role of SACs appears to be highly significant. The paper concludes by proposing that we need to go beyond traditional frameworks of computer-assisted language learning (CALL) for understanding and investigating the role of technology in language pedagogy and that the term mobile assisted language use (MALU) may be more appropriate.

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Introduction

This project examines the practices and perceptions of non-native adult student speakers of English (NNS) working on CbMs in self-study contexts in their own countries. With reference to Thai and Arabic university students it asks the following questions: Which CbMs do such students access and why? To what extent do they perceive such CbMs as assisting with their language studies? Where access to material is available anywhere and anytime, where do students prefer to work and why? What e-literacy skills are employed? To what extent do students make use of social networking sites in English? Do they see computer-mediated communication (CMC) as influencing the type of language that they use? What are the policy implications of the answers to these questions for the development and direction of SACs? Furthermore, what are the implications for the theory and practice of CALL today? In answering these questions, the project addresses some important issues of information and communication technology and new technologies, as well as aspects of teacher education, training and intercultural communication, and the social, economic and political aspects of English.

The research issues

Language pedagogy over the past 25 years has seen a significant shift from teacher- to learner-centred approaches and this notion is frequently realised in SACs, which have now become an essential feature for many providers. A SAC here refers to the physical location where both paper-based materials (PbMs) and CbMs are made available for students to use in order to study English by themselves. It is worth noting, however, that different centres use different terminology, and in this particular study KMUTT uses the term Self Access Learning Centre (SALC) whilst ZU uses Learning Enhancement Centre (LEC). Another frequently used term is Language Resource Centre (LRC). For the purposes of this paper, henceforth we shall use the term SAC as this is most commonly and consistently used in the literature. Typically, SACs stock a range of materials, but it is CbMs such as the internet, MS Office and other dedicated language learning software materials which tend to dominate. CbMs is a term which, in a language pedagogy context, was first coined by Jarvis (2004) in his study of how English as a foreign language (EFL) providers at British universities make use of computer applications in language teaching and learning both in and outside the classroom. CbMs cover generic software programs such as the word processor and the internet, as well as programs which are specifically dedicated to language teaching and learning and, as such, are characterised as having a direct tutorial function such as commercially available multimedia based packages. There is, of course, some overlap here; the internet, for example, includes a huge amount of authentic material which is not designed specifically for language teaching and learning, as well as specific websites with language practice material. The specific CbMs used in this study are listed in item 9 of the questionnaire in the appendix. CbMs are the materials which, taken together, form the practical realisations of the field which have predominantly, but not exclusively, come to be known as CALL which can be defined as '... learners learning language in any context with, through, and around computer technologies ...' (Egbert, 2005: 4). The links between CbMs and learner autonomy are well established in that students are assumed to visit a SAC and consciously work on a particular CbM in order to practise their English.

The value of learner autonomy in language learning is long established and well-documented (Dam, 1995; Dickinson, 1987, 1992; Ellis and Sinclair, 1989; Holec, 1980; Little, 1991, Naiman et al, 1978) and for the purposes of this study we shall take a broad definition of learner autonomy to include any selfdirected practice and/or use of the English language. The relationship between CbMs and autonomous learning in SACs is also well established; Schmenk, (2005: 107) comments that: 'The popularity of learner autonomy may be at least partially related to the rise of computer technology and the growing importance of computers in language learning environments worldwide'. Furthermore, Warschauer and Shetzer (2003: 176) observe that 'flexible, autonomous, lifelong learning is essential to success in the age of information'. For many years now most publications concerned with setting up and managing SACs include some discussion on the role of computers, (Carvalho, 1993; Esch, 1994; Gardner and Miller, 1999; Little, 1989; Sheerin, 1989) and today it is difficult, if not impossible, to conceive of SACs without them.

Jarvis (2008a: 369), however, characterises the links between CbMs, SACs and learner autonomy as well established and yet problematic '... in that there is little in the literature which examines what students actually do in such centres and why; empirical data on the practices and perceptions of learners is noticeably missing ...'. In recent years, several UK-based studies (Jarvis and Szymczyk, 2010; Jarvis and Pastuszka, 2008; Jarvis, 2008a; Jarvis, 2008b; Figura and Jarvis, 2007) with adult NNS of English studying at a British university have attempted to address this shortfall. These studies have examined language learners' perceptions, practices and strategies when working on a range of CbMs in SACs and other self-study contexts such as the home. A number of significant issues for pedagogy and policy have arisen out of this work. Students multitask and use both their native language (L1) and the English language (L2) when working on a variety of CbMs and 'this undermines what might be characterised as a traditional view of language learning which tends to stress an individual activity which is completed in the target language' (Figura and Jarvis, 2007: 460). The role of CbMs is important,

but '... it would be a mistake for practitioners and other resource providers to slavishly follow the digitalised medium route for everything ... the potential opportunities offered by a blended approach which combines both digitalised and paper-based materials should not be overlooked and the implications for SAC design need to be addressed' (Jarvis and Szymczyk, 2010: 38). Furthermore, NNS tend to view a wide range of CbMs as helping with language learning irrespective of whether they have an obvious teaching or learning function and this has implications for our conceptualisation of CALL. The physical location of a SAC, in an 'anywhere, anytime' era, cannot be overlooked; 'where the physical worlds and the virtual worlds meet is a significant factor and one which warrants further investigation' (Jarvis, 2008b: 137). E-literacy, an ability to access, make sense of and manage huge quantities of information in digitalised mediums in English, was also found to be problematic for some students. This study makes a further contribution to these issues, but in the context of NNS working in their Thai or Arab home (L1) environment.

Historically, most CALL research has tended to examine the role and value of an individual CbM as applied in a very controlled class-based context.

However, as we have seen, the recent studies cited above have now begun to examine student practices and perceptions when working on a range of CbMs in less controlled situations, but surprisingly such work has not yet been conducted in countries where the vast majority of students actually learn the English language, i.e. in their native country. The studies by Jarvis and his colleagues were all conducted in the UK amongst NNS studying English whose exposure to a variety of forms of English, including face-to-face everyday contact beyond both the classroom and the SAC, was unlimited. This contrasts with the experience of most overseas learners whose access to English outside the classroom is frequently restricted to CbMs in general and internet-based interaction in particular, as well as some CbMs which have been specifically purchased by the institution and are usually available through SACs or a library. Clearly, such students do not experience the same type of exposure to the English language as those who are studying in the UK.

It is against a background of huge interest and massive growth and investment in SACs that the practices and perceptions of these students warrants investigation and our research questions, as documented in our introduction, arise.

The research methodology

The research methodology employs both quantitative and qualitative techniques. The former is used to explore 'the measurement and analysis of casual relationships between variables, not processes' whilst the latter allows for a focus on 'processes and meanings that are not rigorously examined or measured in terms of quantity, amount, intensity, or frequency' (Denzin and Lincoln, 1998: 8). The quantitative element involved asking closed-ended questions via a paper-based questionnaire, which was piloted and amended as required. The appendix documents the questionnaire used, and, for the purpose of convenience, the fully collated data has also been added. In total, 123 students were surveyed in this way. Participants from ZU were studying English at foundation level whilst those from KMUTT were studying a credit bearing English module at undergraduate level. The language level of the students varied from pre- to upper intermediate. Questionnaires were distributed across a series of classes by project facilitators and other members of staff. Data generated using such techniques arguably affords 'a good deal of precision and clarity' (McDonough and McDonough, 2004: 171) and allows quick and simple answers (Oppenheim, 2001). However, such techniques allow for only limited responses and to overcome this, semi-structured interviews in the form of focus groups and/or one-toone interviews were also employed. Such techniques give participants 'some power and control' (Nunan, 2005: 150) and open up possibilities for discovering new and important realities by accident (Adler and Adler, 1998). These focus groups and interviews were conducted by the principal researcher whilst visiting the partner institutions in January and February 2010. Students who returned the questionnaire were given the opportunity to indicate whether they were prepared to participate in this second stage of the project and a total of 33 students opted to do so and had availability at a mutually convenient date and time. These sessions were recorded using a small digital recording device which was simply placed on the table between the interviewer and interviewee(s). In this way, some of the usual formality of interviews could be avoided in order to hopefully put the students more at ease and allow them to feel free to speak without the worry or distraction of a microphone (Mackey and Gass, 2005: 206). Responses were analysed and are, in our reported findings section, cross referenced with questionnaire data in order to develop and support pertinent issues, as required. A generic coding system

is used to refer to each group of students, which helps protect individual identities.

The code is according to nationality and gender and is as follows:

Thai male = TM
Thai female = TF
Emirati male = EM
Emirati female = EF.

It is felt that this combination of research techniques allows for some degree of triangulation. In reporting what students said, direct quotations are used and the English has not been corrected as meaning is clear despite a number of language errors.

Limitations

All studies have their limitations and this one is no exception. Whilst the combined research techniques adopted here have given participants a voice to report what they do when using computers in autonomous contexts, we have not attempted to empirically measure what actually occurs. This study explicitly focuses on the learners' perspective since it is felt that this is all too often neglected in the literature. However, further future studies which employ observational techniques would certainly add to this work, but it is recognised that data collection of this type is extremely time consuming and, therefore, costly in terms of human resource.

Research ethics

All precautions and procedures were put in place from the start and maintained during and after data collection and analysis, in order to ensure that every effort was made to minimise any risk to the participants (Seliger and Shohamy, 1989: 196). The preamble to the questionnaire itself included an explanation of the study and an informed consent section which participants were invited to sign. This section advised students that participation was entirely optional and that they would not be disadvantaged in any way should they choose not to participate. The end of the questionnaire included a section which allowed participants to indicate whether or not they were willing to participate in the second stage of the study. Furthermore, before the second stage interviews and focus groups commenced, the researcher reminded students that their participation was voluntary. Names are mentioned nowhere so that anonymity may be upheld.

Results and discussion

Our discussion of results is framed around a number of subheadings which stem from the questionnaire itself, with data from the interviews and focus groups integrated within these subheadings. It is felt that this approach best allows for systematic coverage of our research questions and arising issues. The subsequent implications section then goes on to briefly discuss what the findings might mean for the field of CALL and for SACs. Here we will also offer a possible hypothesis regarding how some CbMs are being used by students beyond SACs. Finally, the conclusion considers revised ways of conceptualising the field beyond the computer in 'C'ALL and the direction that further research might take.

Digital natives and frequency of computer usage

The participants in this study, as can be seen from the data in response to question 1 (Q1), were clearly at ease with computers in their everyday life. They were, without exception, frequent users with the vast majority (74 per cent) making use of them every day. These learners are 'digital natives' (Prensky, 2001) in that not only have they known nothing but digitalised mediums throughout their lives, but they also make very frequent use of such mediums; moreover, the English language, as will become apparent, has a significant role within this. Q3 pointed to a wide range of website applications being used, particularly Google, YouTube and Wikipedia. The participants in the interviews and focus groups elaborated by talking about how they used computers in both L1 and L2 to access and transmit a wide range of information of both an academic and social nature in both text, still picture and video forms. Participants use social networking sites to chat, to post information and to play games; they download films and watch TV, and regularly do so in their L1 and in the L2. The one aspect which was noticeably missing from this extensive list of activities was online shopping – none of the participants from either institution mentioned this and when asked about it typical responses were: 'don't trust' (TF); 'Thai people don't like online shopping' (TM); and 'I prefer the shopping centre' (EF).

One of the defining characteristics of the digital native is their capacity to have several applications operating simultaneously or to multitask, and in the context of this study such multitasking involved using a combination of CbMs for both academic and social purposes as typified by one EM's comment: 'I do many things: chatting to friends, checking soccer games, listening to music, Facebook and study [laughter from others in the focus group]'. Indeed, in questionnaire item 10 a), a massive 81.1 per cent reported that they tended to work on several applications. A TM reported typically having at least seven applications open at any one time and '... at least half are in English'. When asked whether having so much going on presented any problems the overwhelming response was that it did not '... you get used to it' (EM). However, there was recognition amongst some of the participants that multitasking prevented them from focusing on their academic work; for example, one EF said, '... sometime it prevents us from working'. There was also considerable appreciation by these digital natives that such CbMs make things easier than was the case in a pre-internet era: '... now it's easy because everything modern' (TF); '... computer is comfortable to learn everything you can link it, everything you want to know. It is a global network' (TM); 'I think this technology is a big difference' (TM). However, there was also some recognition that such CbMs may be impacting in negative ways as epitomised by an EF: '... wasting our time and we don't sit with our families anymore'. Such a comment is a useful reminder that the social impact of CbMs is not always seen as a positive one.

It is also worth noting here that our data sets are likely to under-represent the frequency with which digitalised mediums are used, as the question asks only about computers and not mobile phones and other devices. We will return to this in our discussion of further research in the conclusion.

The significance of the English language

The significance of the English language for all students when using computers outside of their studies is clear to see from the response to Q2. A tiny 3.3 per cent indicated that they use only L1, compared to a massive combined total of 86.6 per cent who use both L1 and L2. This breaks down as mainly L1 but some English (64.2 per cent), and mainly English but some L1 (24.4 per cent). A further 8.1 per cent reported using only English. We have already noted that responses to Q3 included a number of websites and it was references to Google. YouTube and Wikipedia which dominated the replies. Comments from the qualitative data provided more detailed insights into the significance of English for these students; for example, 'I like games in English ... it's easy to understand games in English' (TM), and a TF uses computers mostly in English and if she does not understand '... I can guess and if I don't know I search online dictionary Longdo, it's pretty good, it's easy to use'. However, the dominance of the English language on the internet can also make it difficult for some students as exemplified by a comment from an EF: 'Sometimes it is a problem because we don't understand some words and we feel confused'.

It is clear that the participants recognised the significance of accessing information in English from the internet in terms of the hegemony of the English language itself, as well as the quality of information available when compared to their L1. The use of Google to access information in English dominated but other applications were also used as typified by an EM who said, '... mostly Google, sometimes ask. com or dictionary.com' and when asked about which language he used he replied, '... mostly English ... in English it is clear ... it will give us more research of the things we want ... if you search for a book [a reference to e-books] they don't translate to the Arabic language'. Another TM mentioned how accessing information is easy and Google helps correct his English: '... it's not difficult, it's easy, sometimes I wrong word but Google corrects it'. A TM stated, 'In English there are many information'. An EF reported using keywords in English '... because in English there are more information', but another EF then went on to add '... it depends on what I need'. A third EF mentioned that 'I think in English there is specific thing, it explains more'. A large number of focus group participants referred to Wikipedia and how much better the English version is compared to the Arabic or Thai versions. A TM noted that both Google and Wikipedia '... can help me everything in English, in Thai it's not clear'. As regards the quantity of information in English a TM noted, 'I use the internet in English to watch something that in Thai they don't have'.

And with specific reference to Google a TM stated, '... sometimes in Thai, it's junk; in English it has more information' and that with YouTube in English '... it's more easy to upload video, watching music video ... it's difficult to find in Thailand'. Many students felt that access and exposure to such material was helping them, to some extent at least, to learn and practise English but there was also some recognition that access to authentic material in English on the web could be enjoyable as well as helping with language in autonomous contexts. For example, a TM reported using YouTube for 'comic show in English to relax', whilst an EM said of YouTube '... it helps us, if you find something enjoy you will get good'. There also seems to be some recognition of the state's interference with L1-based content: a TM noted, '... in English they have more information, in Thai you cannot find it, I tried before. Thai block some sites'.

Finally, in addition to social content there was also some appreciation of the value of CbMs for academic content in English on the web. A TF, for example, mentioned '... I like to search information about homework [Engineering] by English language, sometimes both ... some topics it is necessary to use English because it have many information that Thai not have'.

Social networking, CMC and a changing language Item 10 g) indicates that 63.9 per cent of participants use English to communicate with friends from other countries and many reported making friends via Facebook. A typical response in this case from an EM was: '... they tell you about their friends and we share ... it's nice sir to see pictures, tags, send messages, games ... get your friends in a group like a soccer game'. In item 10 d) over half (52.4 per cent) reported that they '... use a different type of English when social networking to that which I am taught' and there was a widespread view that such CMC made English easier; a TF said, '... it's very easy, don't have grammar ... when I type grammar it's too complex' and an EM explained how he picks up such language: '... we practice on the internet, we learn from friend ... we find it easy so we do it ... it's better, it's easier it's shorter'. An EF elaborated on the ways that CMC is changing English '... by chatting they use a different language, a new one, like TYT [take your time] ... and numbers like letters'. Comments such as these point to autonomous learners making intelligent decisions about the type of English language to use in an online social environment. Indeed, when asked if such changes presented a language problem for them most did not seem to think so; however, one EF reported '... sometimes when I write an essay I forget how to spell it, only letters like U [you]'.

Finally, it should be noted that the value of social networking and the extent to which it helps students practise English was not universally embraced with EFs being particularly critical, and the following EF comment received some endorsement from focus group classmates: 'I don't like, it's silly'.

E-literacy

The huge amount of information available with CbMs in general and the internet in particular is not without its problems, and how well we access, reference, save and transmit such information is an issue of e-literacy. At first glance, data from the questionnaires would suggest that students do not generally struggle with e-literacy, as might be expected from such digital natives. Item 10 c) indicates that the vast majority (78.7 per cent) regularly back up their work and item 10 i) shows that over half (57.4 per cent) do not report difficulties finding information. Furthermore, in item 10 j), 76.2 per cent reported knowing how to reference material in English from the internet and there was certainly some evidence from the qualitative data of reported good e-literacy practices as indicated by the following comments: 'I save my work on CD, it's important' (EM); 'I save in favourites' (EF); 'I have a flash drive' (TF). Of all the e-literacy based statements in the questionnaire arguably the most problematic for a significant minority was item 10 e) where 41 per cent reported that reading on the internet is more difficult than reading from paper; in the case of Emirati students, however, this figure was significantly higher at ET 54.4 per cent. Reading hypertext is, of course, potentially problematic because of its non-linear nature and this would probably go some way to explaining such a response; a point which was acknowledged by an EF with the comment '... sometimes reading on the computer is confusing'. This is certainly an area which warrants further investigation; the issues of reading in an online environment is an under-explored field and yet NNS, as this study demonstrates, do so much of their reading in precisely such contexts. Furthermore, it is suggested that reading in an online environment should not be narrowly defined to hypertext on websites as it is much broader and involves reading any number of CbMs on a computer, such as MS Office 'help' files and many other software programs – not withstanding Thai or Arabic versions, so much of which is in English.

Despite the quantitative data pointing to few e-literacy issues, the interviews and focus groups did reveal problematic areas with accessing information; as a TM pointed out: 'When I use Google I type one word I can get one million websites for me, but I don't know which website is the best for me ... sometime they give the information in a different way'. Another

TM reported on a problem with managing or saving information and recently losing homework: '... last time it's just a week ago. I tried to get them back because my deadline tomorrow'. Furthermore, there was no evidence from the discussions of more sophisticated e-literacy skills such as saving websites or files in a virtual environment (e.g. in the case of websites using Delicious.com), which allows bookmarks to be accessed anywhere, anytime and from any computer.

Integration of CbMs in language pedagogy

Bax (2003: 23-24) refers to a future where computers are '... an integral part of every lesson, like a pen or a book. Teachers and students will use them without fear or inhibition, and equally without an exaggerated respect for what they can do. They will not be the centre of any lesson but they will play a part in almost all. They will be completely integrated into all other aspects of classroom life, alongside coursebooks, teachers and notepads. They will almost go unnoticed'. This is characterised as the 'normalisation of CALL' and is an important issue in any discussion of trends and issues within the field. Data from Q4 suggests that we are a considerable way from normalisation, but also that the picture is extremely varied, with 44.7 per cent of students at ZU using computers in the classroom either most days (ET 13.4 per cent) or two or three times a week (ET 31.3 per cent) compared to a total of only 5.4 per cent of students at KMUTT using them most days (TT 1.8 per cent) or two or three times a week (TT 3.6 per cent). One obvious explanation for this phenomenon is availability of equipment and support, but further work in this area is needed in order to more fully identify both the opportunities and limitations associated with normalisation.

Unless and until normalisation is realised CALL will continue to be primarily associated with autonomous learning and self-study contexts, and this is fully supported by the data in Q5. A significant cluster (68.4 per cent) of students make use of computers in their English language studies outside the classroom either two or three times a week (39 per cent) or once a week (29.4 per cent) with a further 15.4 per cent doing so most days of the week. Such a phenomenon was originally identified and documented by Jarvis (2004) in a study of all types of English as a foreign language (EFL) courses at British universities. Six years on, two different contexts, and little seems to have changed in terms of associating CALL with activities based outside the classroom. It, therefore, seems fair to assert that the use of computers for self-study purposes in English Language Teaching (ELT) is now well established globally.

Location in self-study contexts

The responses to Q6 and Q7 show that the vast majority (79.5 per cent) of learners prefer to work at home when using CbMs to practise or learn English in self-study contexts. However, as we will go on to discuss shortly, the preference for studying in a SAC when using CbMs with a specific tutorial function is generally stronger. Furthermore, irrespective of CbM type, it is clear that in term time the majority do make some limited use of the SAC, with 41.8 per cent doing so a few times a month, followed by 26.2 per cent doing so once a week. The qualitative data reflected a somewhat mixed picture with typical responses as follows: '... here [SAC] is better to read stories, use CDs, read the newspaper, speaking with my teacher' (EM), whilst an EF said '... sometimes I work here because we have a library but at home is better, more comfortable, no one talks to you and focus, I have a lot of time, it's a quiet place'. Another EF went on to add, '... but I need (SAC) to ask friend or a teacher'. One TM works at the university '... because when I am at home I do not use [computers] too much about learning, at home I want to be relax'. In contrast, another TM's view was more common: 'I prefer at home ... it's very comfortable and have more concentration'. Some of these comments point to the importance of SACs not primarily for their computer provisions, but for other reasons such as support and language advising from a teacher, or face-to-face interaction with classmates and friends and, as we will now go on to see, the role of other resources such as PbMs.

CbMs and PbMs

Responses to Q8 clearly demonstrate the importance of a combination of PbMs and CbMs in SACs. The majority of students (53.7 per cent) make use of both types of materials, but it is also worth noting that where students reported making use of only one type of material, twice as many (31.4 per cent compared to 14.9 per cent) expressed a preference for paper over CbMs. These figures suggest that PbMs are a particularly important aspect of SAC provision and whilst today's SACs clearly need to include some computer provision, it is arguably PbMs and face-toface contact with friends and a teacher, rather than CbMs, which are more important. This data echoes the recent previously cited study by Jarvis and Szymczyk (2010) which points to the importance of including both PbMs as well as CbMs in SACs and highlights the significance of SAC design features which accommodate the use of paper, often in conjunction with the computer – this is sometimes a factor which is overlooked in the rush to 'go digital' and the need to be seen to be providing state-of-theart facilities. It seems to be aspects other than CbMs which bring 'added value' to SACs. Indeed, responses to item 10 b) are important here since they suggest that outside the SAC the students' preferences change significantly, with 65.6 per cent indicating that they prefer computers to books. The fact that CbMs, unlike PbMs, are not location specific appears to be significant here – CbMs can be accessed anywhere and at any time; in contrast, most PbMs in SACs are for reference only and cannot be taken out of the centre.

However, for the vast majority, tutorial CbMs which focus explicitly on practising English remain an important aspect of SAC provision. Excluding the Emirati specific programs of Brain Pop, Selfaccess. com and SIRS, the data in Q9 indicates that the CbMs which are most valued as helping to practise or learn English are those which have a direct tutorial function. Online dictionaries are viewed as helping with language learning by 96.2 per cent; internet sites with English practice exercises are viewed as helping with language learning by 85.6 per cent and in the case of KMUTT the commercially available specific software of Tense Buster is viewed as helping with language learning by 94 per cent; My English by 96.2 per cent; Quartet Scholar by 84.3 per cent and at ZU Focus on Grammar by 90.4 per cent. All the other more generic CbMs in Q9, which do not have this direct tutorial function, have slightly or significantly lower scores on the 'helping to practise or learn English' scale (the highest being other internet sites in English, with 80.8 per cent; the lowest being email, with 68.4 per cent). With all these non-tutorial CbMs or generic programs we consistently see less of a tendency for students to use them in a SAC.

The qualitative data indicates that students appreciate the multimedia features that are now available to them, particularly the audio and video files of these tutorial CbMs. Indeed, the shift from exclusively text-based to multimedia-based CbMs is arguably one of the defining features of tutorial CALL today and there is a range of free material available such as the online dictionary www.merriamwebster.com/ and the pronunciation material available from cambridgeenglishonline.com/Phonetics Focus/. However, in the case of Emirati students, some of the commercially available material which has been purchased by the SAC, namely Brain Pop, Selfaccess. com and SIRS, were certainly less appreciated than the other examples of tutorial material. When asked about this in the interviews, the comment by an EF typified the feeling: '... we prefer to practice grammar, Focus on Grammar is better than the others' - such a comment is a useful reminder of the need to consider learners' preferences and learner styles when purchasing materials for SAC.

Whilst it is certainly the case that students also used tutorial material elsewhere, beyond the SAC, the data does nevertheless suggest that in an 'anywhere, anytime' era, a dedicated physical location for use of specific language learning materials in both paper and digital formats remains important.

Overall, the data in Q9 points to, on the one hand, a widespread recognition of the value of CbMs which have an explicit tutorial function and a high tendency to use them in SACs, and, on the other hand, a recognition that other CbMs without a tutorial function also help students, to some extent, to practise and/ or learn English, but less of a tendency to use these CbMs in the SAC. Our data sets point to a number of implications and issues for CALL and SACs.

Implications for CALL and SACs

In several respects, this study suggests that the practices and perceptions of NNS working with computers in self-study contexts in their own country is similar to the various findings reported by this author (and co-authors) regarding NNS in a host country such as the UK. There is considerable reported practice of autonomous learning and the nature of such practice has been impacted upon by the technology itself. All students multitask and use a combination of L1 and L2, and this suggests that the field of CALL needs to move away from looking at individual software programs in isolation as this is no longer how students work. All students recognise the value of CbMs, but this does not exclude a role for PbMs which, if anything, are preferred by many learners in SACs. There certainly seems to be little justification for the dominance of CbMs over and above other resources. This finding is particularly important for policy-makers who are looking to set up or further develop a SAC as it suggests that an eclectic mix of self-study material is most appropriate, which in turn has implications for the design and layout of SACs. It is likely to be the case that students will be using a combination

of PbMs and CbMs at any one time and design features in terms of desk space, for example, need to adequately reflect this. Significantly, if SACs are to continue to address their remit of providing a physical location where students can work on a range of materials to practise their language, then a clear and important implication is that they need to fully develop the 'added value' factors which make them unique. Such factors include an appropriate study environment where students can focus on getting on with their studies, with support as required. Specifically, 'added value' factors include: SAC language advisors; posters and other wall displays; a variety of PbMs and CbMs which allow for selfcorrection with appropriate classification, for example, in the case of PbMs, through colour-coded levels for books and worksheets; and an easy to navigate interface of menu options for tutorial CbMs. It is also important to stress that SACs are places for face-toface contact with classmates, language advisors and/ or tutors, and the qualitative data suggests that this is important for many students. The internet allows students to access English 'anywhere, anytime' and many are doing precisely this. The SAC allows them to learn English in a dedicated environment and that needs to remain their primary focus.

The tendency to make use of generic CbMs beyond the SAC is significant. It seems that when learners are learning English in L1 contexts, as in this study, they appear to be bringing the target language into their life and home in ways which are arguably not necessary for learners to do in a host country where the target language is already all around. In host counties learners are exposed to English in their day-to-day interactions in life, on TV, in their classes (which it should be noted are usually multilingual). In L1 home countries such conditions do not prevail and the internet is an important source for accessing authentic language and for communicating in English.

Conclusions

This study has generated a considerable amount of quantitative and qualitative data and our analysis and discussions have inevitably focused on the most important generic matters arising from this; however, we have certainly not exhausted all the issues. Indeed, the data sets from each institution might be usefully used to further develop, understand and formulate context specific policy at institutional or national level, but such specificity is simply beyond the remit here. By way of conclusion, consideration of emerging new possible frameworks for the field of CALL is considered together with a note of what has been achieved in this study and identification of where further research might lead.

Whilst traditional tutorial CALL CbMs continue to be one defining characteristic within the field, particularly in the context of SACs, they do not and should not of themselves define such centres: there is more to SACs than CbMs. Equally, there is more to learner autonomy than the physical location of the SAC, a point which is accentuated by the 'anywhere, anytime' availability of CbMs. However, responses from the Emirati students in particular suggest that learner views on which tutorial CbMs work and why (Q9) probably need to be more proactively taken account of when equipping SACs. It is also clear that the traditional view of CALL as CbMs that have a direct teaching or learning function are today but one part of a much wider range of CbM applications; there are emerging trends and developments which point to a more complex picture. Students access a wide range of CbMs of both a social and an academic nature at any one time and do so from a variety of possible places and, in doing so, significant exposure to the English language is encountered. In language pedagogy Krashen (1982) originally made the distinction between learning which is viewed as conscious and acquisition which in contrast is unconscious: when applied to an electronic environment, unconscious acquisition is almost certainly taking place through exposure to authentic English from a variety of CbMs. Such acquisition is arguably as important in learner autonomy as CbMs which encourage direct practice of the language. Clearly, both conscious learning and unconscious exposure to authentic language assist the autonomous learner, but not necessarily in the same ways, and learning cultures (Jin and Cortazzi, 2009) as well as individual learning styles are likely to be significant variables. For Watson-Todd (2007) the changing role of the technology in English suggests a shift from CALL to computer assisted language use (CALU). However, even this fairly recent notion of CALU may be outdated since increasingly student interactions with digitalised mediums are via a range

of devices either in addition to, or as an alternative to, computers. We are broadening from a field of CALL, or even CALU, which is dominated by computers towards other additional devices which can be characterised as mobile assisted language learning (MALL), or perhaps more accurately, if we pursue our argument, mobile assisted language use (MALU). We have already discussed some of the ways in which CMC is changing language and some of the possibilities and challenges that arise out of this. Such issues are likely to become even more prevalent within a MALU environment where access is far more instant, is usually constant, and does not even require logging in to a networked computer. As Kukulska-Hulme (2009: 161) notes, 'we are living in interesting times, in which teachers and learners must try to work together to understand how portable, wireless technologies may best be used for learning'. We have already identified a need for further work around the issues of reading in English in an online environment and within any MALU framework additional challenges to the ones already identified come into play, not least because of the screen size of many devices. This study suggests that further work is needed within revised frameworks and that reading in an online environment appears to be a particularly pressing issue.

The study has provided a number of useful, relevant insights into current trends and issues. Above all perhaps, it has demonstrated that learners in L1 contexts make use of CbMs not only through conscious learning, but also as a rich source of authentic material which arguably facilitates unconscious acquisition. They bring English, the dominant language of technology, into their everyday lives in numerous ways; such a trend is clearly likely to be continued with other mobile devices. This suggests new issues and opportunities for developing autonomy amongst NNS, the majority of whom, like the participants in this study, learn and acquire the English language in their home country, and with historically unprecedented access to CbMs which help, to varying degrees, in their endeavours.

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Appendix – Questionnaire (with collated data)

Computers and learner autonomy: trends and issues

Notes:

- 1. This document is amended for data presentation purposes from the original questionnaire which was distributed to participants.
- 2. All data is presented in percentages (%). Total numbers are also shown in (brackets). A few questionnaires were returned with incomplete section(s) but wherever possible these have been included in the presented data. The lowest completion rates were found in Question 9 (Q9) and for this reason the completion rates (CR) are documented for each heading within this question. However, even the lowest of these (Q9 Social Networking; Focus on Grammar and Selfaccess.com. Emirati total CR = 77.6 per cent) cannot be considered statistically significant.

Which course are you studying?

Returned questionnaires were received from students studying at foundation or BA level with credit-bearing English as a major or minor component.

How old are you? Range from 17 to 21

Are you male or female?

Thai male = 34, Thai female = 22, Thai total (TT) = 56. (60.7 per cent male and 39.3 per cent female).

Emirati male = 12, Emirati female = 55, Emirati total (ET) = 67. (17.9 per cent male and 82.1 per cent female).

Total Male = 46, Female = 77, **TOTAL = 123**. (37.4 per cent male and 62.6 per cent female).

Answer questions 1 to 3 below by ticking \checkmark only one choice.

1. How often do you usually use computers in your everyday life?

	Most days		Two or three times a week		Once a week		Hardly ever		Never	
TT	71.4%	(40)	26.8%	(15)	1.8%	(1)	0%	(0)	0%	(0)
ET	76.1%	(51)	23.9%	(16)	0%	(0)	0%	(0)	0%	(0)
TOTAL	74%	(91)	25%	(31)	1%	(1)	0%	(0)	0%	(0)

2. When using computers outside of your studies which language(s) do you usually work in?

	Only Thai/Arabic	Mainly Thai/Arabic, some English	•	Mainly English, some Thai/Arabic
TT	3.6% (2)	78.6% (44)	0% (0)	17.8% (10)
ET	3% (2)	52.2% (35)	14.9% (10)	29.9% (20)
TOTAL	3.3% (4)	64.2% (79)	8.1% (10)	24.4% (30)

3. When using computers outside of your studies which programmes do you use most often?

This section included references to various websites but Google, YouTube and Wikipedia dominated.

Answer the questions 4 to 9 below by ticking \checkmark (only one choice). For questions 6 and 8 please add reasons in the space provided.

4. How often do you usually use computers inside the classroom in your English language studies?

	Most days	Two or three times a week	Once a week	Hardly ever	Never
TT	1.8% (1	3.6% (2)	41% (23)	50% (28)	3.6% (2)
ET	13.4% (9	31.3% (21)	31.3% (21)	16.5% (11)	7.5% (5)
TOTAL	8.1% (10	18.7% (23)	35.8% (44)	31.7% (39)	5.7% (7)

5. How often do you usually use computers outside the classroom in your English language studies?

	Most days		Two or three times a week		Once a week		Hardly ever		Never	
TT	7.2%	(4)	28.6%	(16)	44.6%	(25)	19.6%	(11)	0%	(0)
ET	22.4%	(15)	47.8%	(32)	16.4%	(11)	10.4%	(7)	3%	(2)
TOTAL	15.4%	(19)	39%	(48)	29.4%	(36)	14.6%	(18)	1.6%	(2)

6. When using computers outside the classroom to help you practise or learn English where do you prefer to work?

	At home		On any university computer		In the self-acc learning centr learning enha centre	re/	No preference	•
TT	78.6%	44)	8.9%	(5)	10.7%	(6)	1.8%	(1)
ET	80.3% (5	53)	9.1%	(6)	6.1%	(4)	4.5%	(3)
TOTAL	79.5% (9	97)	9%	(11)	8.2%	(10)	3.3%	(4)

Reason(s)

Preferences for working from home included: comfort, ease, quietness. Preferences for working from any university computer including the self-access/learning enhancement centre included: free internet, availability of software.

7. During the term time how often do you usually visit the self-access learning centre (SALC)/learning enhancement centre (LEC)?

	Most days	Two or three times a week		Once a week		A few times a month		Hardly ever	
TT	1.8% (1	8.9%	(5)	23.2%	(13)	50%	(28)	16.1%	(9)
ET	3% (2	24.3%	(16)	28.8%	(19)	34.8%	(23)	9.1%	(6)
TOTAL	2.5% (3	17.2%	(21)	26.2%	(32)	41.8%	(51)	12.3%	(15)

8. When you visit the SALC/LEC which materials do you usually use?

	Only computer-base (anything on the con		Only paper-based (books and hand		Both computer and paper materials	I
TT	28.6%	(16)	16.1%	(9)	55.3%	(31)
ET	3.1%	(2)	44.6%	(29)	52.3%	(34)
TOTAL	14.9%	(18)	31.4%	(38)	53.7%	(65)

Reason(s)

Responses included: depends on purpose, don't like reading on a screen, can use computers at home.

9. Please complete the empty boxes by putting a tick \mathbf{x} or cross \mathbf{z} in each.

Computer-based materials – with completion rate (CR =%)	Do you use this outside the SA		Do you use this the SALC/LEC?	s material in	Does it help yo to practise an learn English?	d/or
Word Processor TT	✓ 83.7%	(41)	✓ 63.3%	(31)	✓ 81.6%	(40)
(CR = 87.5%)	x 16.3%		✗ 36.7%		x 18.4%	(40)
ET (CR = 80.6%)		(8)		(18)		(9)
21 (61(00.070)	75.9%	(41)	✓ 44.4%	(24)	70.4%	(38)
TOTAL (CR = 84%)	24.1%	(13)	x 55.6%	(30)	x 29.6%	(16)
101AL (CR - 64%)	79.6%	(82)	✓ 53.4%	(55)	₹ 75.7%	(78)
	20.4%	(21)	¥ 46.6%	(48)	¥ 24.3%	(25)
Online dictionaries TT	[2] 02 28/	(47)	✓ 78.4%	(40)	[] 000/	(50)
(CR = 91.1%)	92.2%	(47)		(40)	✓ 98%	(50)
ET (CR = 99.1%)	7.8%	(4)	x 21.6%	(11)	x 2%	(1)
LI (CR = 99.1%)	✓ 86.8%	(47)	✓ 64.2%	(34)	94.3%	(50)
TOTAL (CD 04.6%)	X 13.2%	(7)	x 35.8%	(19)	x 5.7%	(3)
TOTAL (CR = 84.6%)	₹ 89.4%	(93)	√ 72.1%	(74)	✓ 96.2%	(100)
	10.6%	(11)	¥ 28.8%	(30)	X 3.8%	(4)
Email TT (CR = 91.1%)						(2.5)
EIIIdii 11 (CR - 91.1%)	90.2%	(46)	✓ 21.6%	(11)	70.6%	(36)
FT (CD 00 C0/)	9.8%	(5)	× 78.4%	(40)	X 29.4%	(15)
ET (CR = 80.6%)	90.7%	(49)	✓ 53.7%	(29)	✓ 59.3%	(32)
	9.3%	(5)	x 46.3%	(25)	× 40.7%	(22)
TOTAL (CR = 85.4%)	✓ 90.5%	(95)	✓ 38.1	(40)	✓ 68.4%	(68)
	9.5%	(10)	X 61.9	(65)	¥ 35.2%	(37)
	I					
Internet sites with English practice exercises TT	✓ 72.5%	(37)	✓ 84.3%	(43)	✓ 94.1%	(48)
(CR = 91.1%)	x 27.5%	(14)	x 15.7%	(8)	x 5.9%	(3)
ET (CR = 79.1%)	✓ 66%	(35)	✓ 49.1%	(26)	✓ 77.4%	(41)
	x 34%	(18)	× 50.9%	(27)	x 22.6%	(12)
TOTAL (CR = 85.4%)	✓ 69.2%	(72)	✓ 66.3%	(69)	✓ 85.6%	(89)
	X 30.8%	(32)	x 33.7%	(35)	X 14.4%	(15)
Other internet sites in	✓ 78.4%	(40)	✓ 58.8%	(30)	✓ 92.2%	(47)
English TT (CR = 91.1%)	x 21.6%	(11)	x 41.2%	(21)	x 7.8%	(4)
ET (CR = 79.1%)	✓ 73.6%	(39)	✓ 39.6%	(21)	✓ 69.8%	(37)
	x 26.4%	(14)	x 60.4%	(32)	x 30.2%	(16)
TOTAL (CR = 84.6%)	✓ 76%	(79)	✓ 49%	(51)	✓ 80.8%	(84)
		(, -,				

Computer-based materials – with completion rate (CR =%)	Do you use this material outside the SALC/LEC?	Do you use this material in the SALC/LEC?	Does it help you to practise and/or learn English?		
Social networking sites	✓ 88.2% (45)	23.5% (12)	74.5% (38)		
(such as Facebook, Twitter, Myspace, Hi5, Bebo, MSN, Skype) TT (CR = 91.1%)	x 11.8% (6	76.5% (39)	x 25.5% (13)		
ET (CR = 77.6%)	✓ 71.2% (37)	36.5% (19)	✓ 61.5% (32)		
	x 28.8% (15)	× 63.5% (33)	x 38.5% (20)		
TOTAL (CR = 83.7%)	✓ 79.6% (82)	30.1% (31)	✓ 68% (70)		
	¥ 20.4% (21)	69.9% (72)	№ 32% (33)		
Tense Buster TT	✓ 66% (33)	96% (48)	✓ 94% (47)		
(CR = 89.3%)	x 34% (17)	4% (2)	x 6% (3)		
My English TT (CR = 92.9%)	✓ 86.5% (45)	98.1% (51)	✓ 96.2% (50)		
	x 13.5% (7)	x 1.9% (1)	x 3.8% (2)		
Quartet Scholar TT	✓ 62.7% (32)	82.4% (42)	✓ 84.3% (43)		
(CR = 91.1%)	x 37.3% (19)	x 17.6% (9)	x 15.7% (8)		
Focus on Grammar ET	✓ 67.3% (35)	65.4% (34)	✓ 90.4% (47)		
(CR = 77.6%)	x 32.7% (17)	34.6% (18)	x 9.6% (5)		
Brain Pop ET (CR = 79.1%)	✓ 22.6% (12)	22.6% (12)	✓ 35.8% (19)		
	x 77.4% (41)	77.4% (41)	x 64.2% (34)		
Selfaccess.com ET	✓ 32.7% (17)	38.5% (20)	✓ 44.2% (23)		
(CR = 77.6%)	x 67.3% (35)	x 61.5% (32)	x 55.8% (29)		
SIRS Discover & Knowledge	✓ 37.7% (20)	34% (18)	✓ 43.4% (23)		
Source ET (CR = 79.1%)	x 62.3% (33)	x 66% (35)	x 56.6% (30)		

10. Please indicate whether the following are true or not true for you (tick \checkmark for true or cross X for not true). If, however, you are not sure please enter NS.

	/		×		NS	
a. When using the computer	_	ral annlica	etions			
·			Γ			(2)
TT	85.7%	(48)	10.7%	(6)	3.6%	(2)
ET	77.3%	(51)	19.7%	(13)	3%	(2)
TOTAL	81.1%	(99)	15.6%	(19)	3.3%	(4)
b. When studying by myself I	usually prefer comput	ers to boo	ks and other papers			
ТТ	75%	(42)	19.6%	(11)	5.4%	(3)
ET	57.6%	(38)	31.8%	(21)	10.6%	(7)
TOTAL	65.6%	(80)	26.2%	(32)	8.2%	(10)
c. I usually keep a spare copy	y of my important com	puter files				
TT	83.9%	(47)	8.9%	(5)	7.2%	(4)
ET	74.2%	(49)	19.7%	(13)	6.1%	(4)
TOTAL	78.7%	(96)	14.8%	(18)		(8)
d. I use a different type of En						
	- 1				16.10/	(0)
TT	44.6%	(25)	39.3%	(22)	16.1%	(9)
ET	59.1%	(39)	33.3%	(22)	7.6%	(5)
TOTAL	52.4%	(64)	36.1%	(44)	11.5%	(14)
e. Reading on the internet is	more difficult than read	ding from	paper			
TT	25%	(14)	60.7%	(34)	14.3%	(8)
ET	54.4%	(36)	39.4%	(26)	6.1%	(4)
TOTAL	41%	(50)	49.2%	(60)	9.8%	(12)
f. My teachers encourage m	e to use computers in	my spare	time			
TT	69.7%	(39)	19.6%	(11)	10.7%	(6)
ET	62.1%	(41)	34.9%	(23)	3%	(2)
TOTAL	65.6%	(80)	27.9%	(34)	6.5%	(8)
g. I use English to communic	ate online with friends	from othe	r countries			
TT	53.6%	(30)	44.6%	(25)	1.8%	(1)
ET	72.7%	(48)	25.8%	(17)	1.5%	(1)
TOTAL	63.9%	(78)	34.5%	(42)	1.6%	(2)
h. I prefer books for learning	1	(70)	34.370	(42)	1.070	(2)
		(2.2)	04.407	(40)	40.70/	(0)
TT	67.9%	(38)	21.4%	(12)	10.7%	(6)
ET	39.4%	(26)	54.5%	(36)	6.1%	(4)
TOTAL	52.5%	(64)	39.3%	(48)	8.2%	(10)
i. Finding information from the	he internet in English is	s difficult				
TT	39.3%	(22)	58.9%	(33)	1.8%	(1)
ET	39.4%	(26)	56.1%	(37)	4.5%	(3)
TOTAL	39.3%	(48)	57.4%	(70)	3.3%	(4)
j. I know how to reference m	naterial in English from	the intern	et			
TT	78.6%	(44)	8.9%	(5)	12.5%	(7)
ET	74.3%	(49)	24.2%	(16)	1.5%	(1)
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