

## A STUDY OF STUDENT ATTITUDES TOWARD CALL IN A SELF-ACCESS STUDENT RESOURCE CENTRE

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It was originally assumed that the proclivity of Arab students for rote learning and their unfamiliarity with technology would preclude their spontaneous use of a student resource centre; however, student use of the centre, and particularly of the computers there, was greater than expected. This article deals with factors in this outcome, i.e. the philosophy on which CALL development was based, the programs used, and student attitudes toward using the computers for self-access learning. In particular, it was found that the students in this survey enjoyed using computers to study English and that they experienced little difficulty or confusion in doing so. In addition, they felt that they were improving their English by using the computers, and that their ability to use computers improved with time. Furthermore, they thought that using computers was important to them, and their attitudes became increasingly positive the more they used the computers.

### 1. INTRODUCTION

#### 1.1. *The self-access Student Resource Centre at Sultan Qaboos University*

This paper reports a survey of the attitudes of students at Sultan Qaboos University (SQU) in Oman toward using computers to study English in the self-access Student Resource Centre (SRC) there. Results of the survey suggest that these students have generally positive attitudes toward computer-assisted language learning (CALL) used as a component in self-access learning.

As English is the medium of instruction throughout much of the university, all students take English language courses during their first year. The SRC is a Language Centre facility available to students to use as part of their scheduled classes or in their spare time on a self-access basis. One section of the SRC contains 10 IBM-XT stand-alone personal computers.

At the time of this study, 318 (49%) of 648 male and female Omani university students were enrolled in the Foundation Science Course (FSC), their first year at the university prior to continuing with their degrees in medicine, science, engineering and agriculture. Because courses in the Language Centre for FSC students are designed to provide concurrent English support for FSC science courses, software in the SRC allows students to explore, through various perspectives, the text materials they are studying in both their FSC and English support courses.

For three reasons, CALL development in the SRC has been based in the exploratory learning approach, as opposed to more directed alternatives, such as tutorials or drill and practice. First, there is a well-developed rationale for using such an approach (see, for example, Higgins, 1988; Higgins and Johns, 1984; Johns, 1988; 1989; Phillips, 1986; Stevens, 1989; 1990). Second, in so far as it enables us to exploit authentic text material which the students are in the process of studying, the exploratory approach lends itself to support for the science courses. And third, compared with the effort required to produce other forms of CALL, exploratory materials can be relatively easily implemented, since all we have to do once the template programs are written and installed is to feed in text.

Because the students are not really capable of reading native language science texts, the College of Science and the Language Centre continually prepare materials suitable for them, e.g. textbooks, workbooks and lecture notes. These materials are created using word processors, and the files on disk are available to materials developers in the Language Centre.

Although several commercial programs were available to students at the time of the survey, it has not generally been practical to integrate commercial software with material the students study in their FSC and English support courses (Stevens, 1988), whereas we have developed programs in-house which will access the students' course materials through simple conversion of the word processed texts to ASCII format. We believe the efficacy of our programs hinges on the degree and nature of integration thus made possible.

Our battery of text manipulation programs, called TEXT TWISTERS, comprises a cloze and a cryptogram generator, a paragraph and a sentence jumbler, a whole-text reconstruction program, and a hangman game, all of which work outright on the ASCII text versions of the textbooks the students are studying in their various FSC and English support courses. The computers are configured so that TEXT TWISTERS runs from the fixed disk drive by default; that is unless a student inserts a disk for another program in the floppy disk drive on the computer. Although our computers do not record what programs are being run, it is estimated that at least half of student use of SRC computers at the time of this study was with TEXT TWISTERS.

Another of our in-house programs is CONCORDANCE, with the corpus being the concatenated texts available to TEXT TWISTERS. There are two in-house produced authoring templates: QUIZ RACE, a trivia game program with questions on a variety of topics, including science; and TIC TAC KNOW, which awards naughts and crosses for correct answers to questions similar to those in the trivia game. At the time of this study, there were also some CALL materials for chemistry created using CALIS, an authoring system developed at Duke University. All the above programs can use ASCII text files as input.

### *1.2. Student use of computers in the SRC*

From the outset, we were concerned that the students entering SQU might not respond well to self-access learning. In particular, we were unsure how traditionally schooled Arab students with no prior exposure to computers might react to the computer-based exploratory activities in the SRC, where they would be using a computer-based tool to learn about the language through manipulating it rather than being taught its rules.

There was little in the literature to assist us on this question. Littlejohn (1983) achieved some success in implementing a learner-managed course with Arab students in Bahrain, despite having to overcome deep-seated exam-fixation that militated against his students' perceiving the real purpose of the tasks they were asked to perform. He speculates that the conflict between learner-centered approaches and exam-based rigidity "could lead to student demoralization" (p. 606). More recently, Dhaif (1990) casts doubt on Arab learners' desire to work at their own pace or engage in exploratory learning in a CALL environment; rather they see the computer more as a grammar drill master and reinforcer of what transpires in class.

On the implicit assumption that our students were not going to automatically take to self-access learning, science-stream English classes were scheduled in the SRC so that each student would, in theory, be led gradually into patterns of self-study. Therefore, at the time of this survey, each student in the FSC had experienced guided "self-access" in the SRC, much of which was computer-based, for two hours a week for an entire semester. In addition, all students at SQU were able, if they wished, to use the SRC during four two-and-a-half hour evening sessions each week. Student attitudes toward using the computers in the SRC during both scheduled "self-access" and individual self-access are assessed in the present study.

## 2. RESEARCH QUESTIONS

In attempting to assess students' attitudes toward CALL in a self-access student resource centre, answers to the following questions were sought:

1. Did the students like using the computers in the SRC?
2. How easy was it for the students to use the computers?
3. How much English did the students think they learned by using the computers in the SRC?
4. How did the students' attitudes toward CALL change during their first year at SQU?

Ancillary purposes of the questionnaire were to provide insights into how important our students considered computers to be in general, to explore any anxieties they may have had in confronting unfamiliar technologies while engaged in language learning, and to discern how patterns of use may have changed in the course of the semester. The questionnaire also sought to determine what prior experiences our students had had with computers.

## 3. THE SURVEY INSTRUMENT

To elicit answers to these questions, a survey instrument was constructed and validated following salient aspects of the method employed by Hall *et al.* (1977), who produced a questionnaire gauging seven levels of concern for innovation. In so doing, they reduced 544 potential items to 35 by having judges agree on which items would address the seven

levels of concern most appropriately. Following this principle, our survey instrument was examined by colleagues in the Language Centre at SQU for face validity, appropriateness in eliciting answers to the research questions, and wording of the items.

Validation through consensus proceeded in two stages. First, numerous draft items were prepared on each research question and judges were asked to rank the items as to which would best elicit the data sought (as well as to suggest more appropriate formats and wording for the items). The judges were two Arab-speaking ESL instructors, a coordinator for the English support course, and the assistant director for testing at the Language Centre. This phase enabled us to arrive at wording appropriate to non-native speakers, and to eliminate several items considered least likely to elicit the data desired.

The remaining items, plus an additional item suggested by one of the judges, were reworded and/or reformatted according to feedback and the results placed in a revised questionnaire. This was given now to five ESL instructors in the Language Centre (three Arab-speakers this time, another course coordinator, and a fellow instructional developer). Again items were rated as before; those that fared well were reworded if necessary and put in the final instrument; those that rated poorly were rejected.

To simplify data collection, all questions had multiple choice answers. Questions sometimes addressed the research questions directly, sometimes indirectly. One frequently used question format asked students to register their opinions before using computers as opposed to afterwards. Such items listed possible answers to questions, similarly worded, under the headings: "When I first came to SQU" and "Now".

There were three items utilizing a Likert Scale. One of these items listed seven adjectives characterizing students' reactions to CALL in response to the prompt "I think most computer programs for learning English are . . .", and students indicated the intensity of their reactions on a scale of 1 to 9. The other two called for students to rate the various programs they had used in terms of the enjoyment experienced and the benefit derived from their using the programs. However, as it became apparent from the results that students did not recall programs by name, the latter two questions ultimately had to be discarded from the survey.

The result was an instrument, validated to some extent through consensus, whose reliability was enhanced by having at least three or four items addressing each research question, worded so as to probe how student perceptions had changed over the semester. In addition, the questionnaire gauged student perceptions of the importance of learning to use computers in general as well as their anxieties in using them.

#### 4. METHOD

The questionnaire was administered during class time to 24% ( $n = 75$ ) of the 318 first year Foundation Science Course (FSC) students, about a third of whom were female. The FSC students were selected as subjects because their level of English was deemed suitable to that of the questionnaire.

Although random selection of subjects was not practical, the questionnaires were given during class time to all students in participating classes without regard to whether they had used the SRC voluntarily or not; in fact, only 37% reported having used the computers evenings as well as during class. Three teachers participated; two of these were not particularly attuned to CALL and would not have biased their classes regarding this medium of instruction during the semester. So that the students would take the questionnaire seriously, all respondents were asked to write their names on their papers. The questionnaire was administered one month into the second semester. Therefore, it surveyed the attitudes of first year Arab university science students after one semester of computer use in a self-access student resource center.

## 5. RESULTS

Of the 75 students surveyed, 83% said they had never used a computer before coming to SQU. Only 9% reported having current access to a computer either at home or at a friend's house. Thus this survey is of particular interest because these subjects, raised in an environment where technology is the exception rather than the norm, were for the most part getting their first exposure to computers by practicing English in the SRC.

To see how student attitudes changed with exposure to computers, many items asked how students felt about a certain point when they first arrived at SQU and how they felt about it after completing the first semester. Analysis of the responses in such cases yielded two types of data: first, the degree of response to the quality in question (both before and after using the CALL materials); and also, how the degree of response changed after one semester. To arrive at the latter figure, instances where a respondent registered the same degree of response to the quality both before and after were ignored. Only in cases where respondents registered a *change* in degree of response were the percentages of positive and negative changes recorded.

For the purpose of analysis, results on the Likert scale item were collapsed to low (1-3), middle (4-6) and high (7-9) intensity of feeling toward any given adjective.

Throughout the survey, students were instructed to choose only one answer, e.g. the most "important" one. However, slight variations from 100% sometimes resulted from rounding error or from students occasionally leaving questions blank; and on one question, some students marked more than one answer.

### 5.1. *Did the students enjoy using the computers to learn English?*

Several questions asked students if they enjoyed using the computers. One question asked this directly, and responses were heavily weighted toward positive attitudes, 71% registering positive enjoyment after exposure as opposed to only 9% negative.

A question of the before-and-after genre asked how students liked using computers to study English. More students said they liked computers as "the best way to study English" after having used them one semester (32%, as opposed to 25% responding this way for when they first came to SQU), but fewer liked computers as "one way to study English" (52%

now vs 63% on arrival at SQU), and 3% decided they did not like using computers at all to study English after having tried them for a semester. However, when looking at the direction of change of opinion, we find slightly more students (16%) having changed their opinion in a positive direction than in a negative one (12%).

Three adjectives on the Likert Scale item related to enjoyment. Most obviously, students were asked to rate the adjective “enjoyable”. The majority, 51%, said using computers to learn English was “a little” enjoyable (the mid-range response), and 37% found them “very much” so. Only 5% thought computers were “not at all” enjoyable.

Students were also asked to rate the adjectives “interesting” and “boring”. Students resoundingly (61%) said the computers were “not at all” boring, 20% found them “a little” boring, but only 3% went so far as to say “highly boring”. Regarding interest, the greatest number of respondents (43%) rated the computers highly interesting, and 33% marked answers in the “a little” interesting range. Only 9% found them “not at all” interesting. Based on these responses, it seems that the students by and large found the computers interesting and enjoyable, and very rarely boring.

### 5.2. *Did the students find the computers easy to use?*

Having established that most of our students had never used computers before encountering them in the SRC in the course of their English studies, it would be interesting to see if they found them easy to use. Accordingly, one question asked how many programs in the SRC for learning English the students could use when they first arrived as compared with a semester later. The number reporting “some” was about the same both before and after exposure to computers (43% and 40%); however 41% said they could use only one or two programs at the beginning of the year, while 43% said they could use most or all of them at the end of the semester. A more telling indication of this shift was that 67% said the number of programs they could use had increased by the end of the semester (with only 5% saying—for whatever reason—that this number had decreased).

Another question regarding ease of use asked students if they had asked teachers to help them change programs (i.e. exchange disks and reboot) at the beginning of the year, and if they still did this now; 65% said they did when they first came to SQU, while an equivalent number said they didn’t need any help now. Here again, the most interesting figure was that 40% said they had once needed teacher assistance with changing programs, but no longer needed any help. From these last two questions, it seems that the students were successfully learning to use the programs.

Another question aimed to get at ease of use by asking students if they thought they “would be able to learn how to use computers” when they first came to SQU, and if they thought now that they were learning how to use them; 80% said they had been confident from the outset that they would, and 84% said they were now in fact learning how to use the computers. Here again, the more interesting statistic is that 16% of the 84% learning to use computers had thought at first they *would not* be able to; whereas only 9% of the 13% who thought they weren’t now learning to use computers had initially thought they would learn to use them. It is possible that some of these 9% were hoping to learn programming, which is not taught in the SRC, and interpreted the question to mean “learn

how to use computers” in that sense. Students often approach SRC language teaching staff with requests for help in learning programming.

Yet another question on ease of use asked students how well they understood computers on arrival at SQU and now. A third of those questioned (33%) said they didn’t understand computers at all on arrival, yet no student gave this as his or her current position. Only 12% understood computers “fairly well” or better before exposure in the SRC, but after a semester, 44% thought they understood computers “fairly well”, and 13% thought they could use them “better than most people”. Most indicative of the confidence gained by students using computers over the semester was the fact that 77% of the students marked a higher confidence measure for “Now” than for “When I first came to SQU”, and not a single student expressed declining confidence.

A final indication that the computers were easy to use came from the Likert Scale question, where the students rated the adjectives ‘confusing’ and ‘difficult’. For ‘confusing’ 63% of all respondents ticked low numbers, meaning ‘not at all’ confusing. This was an unusually strong statement on the part of students that they did *not* find the computers confusing, as this was the greatest degree of intensity registered for any of the adjectives on the entire scale. While 25% of the students marked numbers in the middle of the scale, only 3% complained that computers were highly confusing. Regarding difficulty, the greatest number, 45%, said computers were “a little” difficult, though 33% found them “not at all” difficult. Only 7% registered high difficulty.

These responses indicate that our students were in general learning to use the computers in the SRC with increasing confidence and understanding, and that they therefore found them relatively easy to use and not confusing. It follows from this that, given properly configured software, computer-naïve students should have little difficulty using computers for CALL.

### 5.3. *Did the students think that computers helped them with their English?*

Student response was generally positive on the question of whether the computers in the SRC had helped them learn English. In response to a question asking them directly if the computers had helped them to improve their English, about as many replied “very much” as replied “very little” (23 and 21%); but 49% reported having received “some” help as opposed to only 7% reporting none whatsoever.

One question asked students to estimate how much of their improvement in English was attributable to the computers in the SRC. Over half (52%) said “some of it” and 7% said “much of it”. Half as many again (29%) attributed “very little” of their improvement in English to computer use. Only 8% said that computers had contributed nothing to their improvement in English, while 4% thought computer use accounted for “most of” their improvement.

A before-and-after question elicited similar information. This question asked how strongly the students felt computers would help them learn English when they first arrived at SQU as opposed to how they felt now about how the computers had helped them. Of all respondents 72% thought originally that computers would help them learn English a lot

or a little; by the time of the survey, this had increased to 85%. More significantly, 37% of all respondents had an improved perception of how the computers could help them with English; whereas perception of the computer's ability to help them with their English declined for 29% of the respondents.

An adjective on the Likert item related to help with English. Responses to "useful" were weighted toward the high end of the scale: 44% replied "a little" useful, and 37% registered "very much" useful. Only 8% responded "not at all" useful.

Though students were less sanguine on how much help they were getting with English from the computers than they were with enjoyment and ease of use, they appear to have felt in general that computers were helping them with their English.

#### 5.4. *Ancillary issues*

5.4.1. *Do students think it is important to use computers?* One question asked students whether they thought it was important to use computers in the SRC, and if yes (or no), why (or why not). Ninety-five per cent of all respondents registered positive for importance: almost half (49%) of these said this was because the computers helped them improve their English (although of the 5% responding that it was *not* important to use computers in the SRC, 4% said this was because computers did *not* help them with their English). Of the other students who thought computer use was important, 41% were of the opinion that "it's important to use modern technology". Relatively fewer (12%) said it was important to use computers because "we enjoy using them".

The adjective "important" also appeared on the Likert Scale item, where 45% of the respondents rated "most computer programs for learning English" as "very much" important, and 32% responded in the "a little" important range. Only 13% were of the opinion that computers for learning English were "not at all" important.

5.4.2. *Did students worry about using the computers?* Since so few of our students had ever used computers before, it would be interesting to see what anxieties they had in dealing with technology in their study of English. Thus students were asked if they worried, before they began using the computers in the SRC, whether they would be able to use them or not, and if they retained such fears after having used them one semester.

In an item of the before-and-after genre, about half the students (51%) said indeed they were worried about using computers when they first arrived at SQU, vs half who expressed no such concerns (48%). After a semester, the balance had shifted to only 28% still concerned vs 69% whose fears had been allayed. Here again, 24% of those who had at first worried were now relaxed around computers after a semester, whereas only 4% who had had no concerns on arrival at SQU had subsequent experiences with computers which caused them to worry whether they would ever learn to use them or not.

Other questions obliquely addressed student concerns regarding computer use. For example, on a question asking why more students did not use the computers in the SRC, only one student thought that this might be because they were afraid of using them. Furthermore, responses to the questions addressing ease of use in section 5.2. above corroborate a pattern



of concern over computer use which was for most students assuaged through actual encounter.

5.4.3. *Amount of computer use.* One indication of positive attitudes in any or all of these areas might be increased use of computers over the semester. One question asked students to compare their present use of computers with how often they used the computers when they first came to SQU. Sixty-four per cent of the students did report increased use of computers (25% reporting "much more" use than when they first came to SQU, and 39% reporting "a little more" use), 16% said their use of computers remained about the same, whereas 11% said their use of SRC computers had tapered off slightly. Only 7% reported "much less" use of computers.

There was also a before-and-after question asking students how often they used computers in the SRC. Students responding "sometimes" numbered about the same before and after exposure to computers (56% and 55%); however 39% of these students reported using computers more often after exposure than before, as opposed to 19% whose answer to this question indicated that their use of computers had fallen off (42% remained about the same). Thus our students indicated that, in general, they were using computers the same or more than before.

One question asked why more students didn't use the computers. Here, the students were being asked to speculate on why *other* students (or perhaps themselves) didn't take greater advantage of the computer facilities available to them. Twenty-four per cent indicated that these "others" didn't think the computers would help them learn English, and 13% thought the "others" perhaps found the programs "not interesting". Only negligible numbers of students thought students found the computers boring (3%), or that students might be afraid to use them (one respondent). However, an overwhelming number (69%) thought the reason was simply that students found it difficult to come to the SRC in the evenings or after class (there are many reasons ranging from few free periods each day to transportation considerations why this might be the case). The percentages exceed 100% because several students ignored instructions and registered more than one answer.

## 6. DISCUSSION

Consideration of the above data leads to a number of conclusions. First, the data suggest positive attitudes for all four of the research questions, i.e.

1. The students enjoy using computers to study English.
2. It is fairly easy for our students to use computers in studying English.
3. The students tend to feel that they are learning English by using the computers in our SRC, and
4. The students tend to show increasingly positive attitudes with increasing exposure to computers.

In addition, the survey suggests that our Arab first-year university students:

1. feel that using computers is important
2. use computers more now than before,

3. are becoming more confident and proficient on the computers
4. increasingly perceive computers to be a viable medium for learning English, and
5. are not bored or confused by computer use.

In addition, a few general observations can be made. First of all, the reaction of our students to the computers has been gratifying. Students have shown very little hesitancy in using the computers right from day one. During the daytime, all parts of the SRC are used (e.g. classes are held in the listening lab and reading room), but during the evening self-access hours, when the students choose what it is they want to do, almost all activity centers around the computer and video rooms, and the majority gravitate to the computers.

As part of their orientation, all incoming Language Centre students at SQU are shown the SRC, at which time they sit down for five minutes in groups of three and play HANGMAN, which is set up for them at all the computers. HANGMAN is chosen because it is colorful, dramatic and easy to play. After surviving what for most of our students is their first-ever encounter with a computer, many are eager to return for another go.

Consequently, the popularity of the SRC has always been greatest during the first weeks of the school year, tapering off to minimal interest by the end of the year. Teachers on duty have reported as many as 50 students crowding the computer room at the beginning of a scholastic year, with use stabilizing at perhaps 20 a night as the semester progresses, then trickling off to one or two visitors an evening toward the end of the semester. This pattern has repeated itself annually, and the question of why use should drop off so precipitously has been a nagging one. The reason may have more to do with Arab student learning styles and attitudes toward learning in general than toward CALL in particular.

## 7. CONCLUSION

It is difficult to establish proof of hypotheses in qualitative studies; indeed such studies are often undertaken not to rigorously establish causal relationships but to gain valuable insights into the phenomena under study. This study was no exception; although some care was taken with experimental design, and especially with development of the instrument, rather than limit the number of variables, the study sought to delve into student attitudes on a wide front in hopes of striking a richer lode of information.

This study has implications for curriculum developers—especially in areas where use of computers is not yet widespread in the environment inhabited by the student population. The results suggest that CALL can be a viable medium for learning even for novice users. They suggest that when the natural curiosity of students is coupled with a battery of CALL lessons configured to exploratory learning, the results can be gratifying, even for learners with a tendency toward rote learning. On the perennial question of whether computers are effective in teaching English, no claims are made; however, it appears that the students themselves generally feel they are gaining from using computers, and given this perception and overall positive attitudes, it is likely that they will want to use computers in attempting to do so.

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