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Resistance, reluctance and radicalism: A study of staff reaction to the adoption of CALL/C&IT in modern languages departments

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Abstract

This paper examines staff reaction towards the use of Computer Assisted Language Learning (CALL) and Communications and Information Technology (C&IT) in language learning and teaching. It considers the attitudes of colleagues in three different universities, two in the UK and one in Canada. Our findings suggest that staff in these three locations are not resistant to the use of computer technology in learning and teaching but rather that any hesitations they have are due to a range of different factors of a practical kind, ranging from time pressures to course relevance. We found that staff in one institution are clearly more enthusiastic about using CALL and C&IT than colleagues in the other two, but that they were also widely welcomed in the latter. One of the main reasons for this has been the creation of common learning environments on the Web. In addition, findings show that staff already convinced of the benefits that CALL and C&IT bring to the teaching and learning experience (radicals) have a role in encouraging their less enthusiastic colleagues to begin using this form of technology. However, we found that the majority of colleagues are not radicals, but pragmatists, and are willing to make use of CALL and C&IT provided that the benefits are clearly guaranteed. There remains a small minority of conservatives. No suggestions are made as to how to deal with them.

1 Introduction

This paper continues work undertaken by Gillespie and McKee (1999) on student attitudes towards CALL and C&IT. On this occasion, we shall examine and evaluate the reaction of academic staff from three different institutions: the University of Toronto, the University of Cambridge and the University of Ulster. Anecdotal concern is often expressed at the resistance of staff to developments in C&IT. We felt it important to address two key questions: How are modern languages staff reacting to the adoption of CALL/C&IT? and What implications do their reactions have for the future use of CALL/C&IT?

It would appear that little has been written explicitly about staff reaction in this area, although Fox (1997:1) states that the use of computer technology is commonly viewed with hostility and scepticism by many staff. To ensure that CALL/C&IT does not suffer

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from the same misconceptions that characterised the early history of CALL (Jones, 1986:171), it seems essential to find out whether staff appreciate the benefits that it brings to the learning and teaching process. Stepp-Greany has argued that this is a crucial step in order to ensure that students accept the value of such technology (2002:174).

In our paper entitled: 'Future shock: changing the communications culture in a School of Modern Languages' (Gillespie and Barr, 2000), we categorised staff reaction in the following way:

- Radicals: those who are enthusiastically convinced of the need for change on the basis of CALL/C&IT
- Reluctants: those who are hesitant to become involved
- Resistants: the irredeemably conservative who oppose its adoption as a waste of time.

Burnage (1999:8) offers a similar taxonomy. We shall test these categories on the basis of the further work we have done since that study. It could be objected that any situation of change involving people would produce such groupings. That is debatable, as we will see later, but the crucial aspect of such categorisation is the proportion of those in each group, and why they are in the category they are in. Are those who are radicals in the minority? Does everyone resist? Are people moving from one category to another? And so on. Through answering these questions we will be able to draw conclusions as to the likelihood of CALL/C&IT gaining wide acceptance.

2 Methodology

The findings of this paper form part of a broader PhD investigation into computer-based language-learning environments. In the doctoral study we are examining how staff and students in all three institutions use computer technology in language learning and teaching as well as considering their reaction to its pedagogical value. Through this investigation we wish to discover whether or not a language learning environment can or indeed should be designed around computer technology.

Each university is very different in character and has a different approach to its use of CALL/C&IT. One high profile university from the UK was chosen (Cambridge), as well as one of the newer universities (Ulster). This choice is intended to represent the wide diversity of reaction and provision of electronic language learning facilities that currently exists, not just in Britain, but in Europe at large. Toronto, long internationally recognised as one of the world leaders in the use of computer technology in learning and teaching, was chosen as an international benchmark. In choosing these different institutions we hoped to be able to discern examples of good and bad practice. In comparing them, similarities would be significant, and it would be possible to see where improvements could be made, and also whether the various approaches to CALL/C&IT were dependent on the character of the institutions concerned.

Data for this research has been collected through observational analysis based on a research visit to each institution. Questionnaires were administered to staff in each university. A total of 68 questionnaires were returned (over 200 student questionnaires were also completed). In each institution, the responses reflected a wide diversity of opinion:

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from the technophobes, who avoided using computers at all costs, especially for language learning and teaching, to those who were enthused by the use of CALL and C&IT, and who had been involved, for example, in the production of CALL material. In addition, interviews were conducted with a variety of staff, including senior managers and Heads of School/Department. Given the large amount of material gathered, many detailed findings have had to be omitted from a paper of this scope. We propose to concentrate on examining staff reaction to the following main areas: the Use of the Internet; the Use of CALL; the Culture of Language Teaching and the Management of Change. However it is important to begin by describing the institutional context in each case.

2.1 University of Cambridge

Cambridge has over 800 students in the Faculty of Modern & Medieval Languages (MML), with approximately 120 teaching staff, based in the Faculty and in the various Colleges. Our investigation discovered that computer facilities for staff and students at Cambridge are of a very high standard, exemplified by the recent refurbishment of the Faculty's CALL Facility, which is used both for teaching and for private study. It now has around 30 multimedia PCs and a range of networked CALL software. In addition to these CALL resources, the Cambridge Language Centre provides a wide variety of intranet-based materials such as digitised news broadcasts in nine languages and banks of listening comprehension examination passages from previous years.

2.2 University of Toronto

Toronto is the largest institution in the study with over 6000 language students on two main campuses. The number of teaching staff is comparable to that of Cambridge, meaning that the staff-student ratio is clearly higher at Toronto. Computing facilities for staff and students are comparable with those at Cambridge. There are three dedicated multimedia computer rooms, which are used primarily for teaching purposes. The Modern Languages departments have extensive web-based facilities, and most courses have a web-site that is used to publish lecture notes, assignment details and other information.

2.3 University of Ulster

The smallest of all three universities in this investigation, the University of Ulster, has approximately 400 students within Languages, with thirty-one staff based on three campuses. Facilities in this university lag behind those of Cambridge and Toronto. There are no dedicated computing rooms in which staff can use CALL or similar types of programs, although there are computing labs used for this purpose. However plans to create a dedicated languages computer room on each campus of the University are at an advanced stage.

3 Results

3.1 Use of Internet

Our investigation discovered that staff use the Internet (Web and Internet tools such as

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e-mail and computer conferencing) in two main ways: for administration and coursework. The study found that staff at the Universities of Ulster and Toronto use the Internet for both purposes, while staff in Cambridge use it mainly for course administration. This can been seen from the staff questionnaire findings, which revealed that 100% of Ulster staff (N = 7: the results of a questionnaire administered independently of this present study) use the computer conferencing program, FirstClass, to contact their students, 85% use it to post up lecture notes and 71% to send work to their students. Staff at Ulster cannot easily publish material directly on the Web and only 15% (N = 13) admitted doing so. At the University of Toronto, 85% of staff (N = 13) use e-mail to communicate with students and 62% use the Web to present lecture notes and coursework details. This contrasts with Cambridge, where, although 95% of staff (N = 42) use e-mail to communicate with their classes, only 31% use it to send work to students and just 17% present lecture notes or other course information on the Web.

These results show that while staff at Ulster and Toronto use the Internet for a wide range of different purposes, more so than staff at Cambridge, it is clear that colleagues in Toronto tend to use the Web for publishing class material more regularly than their counterparts in the other institutions. We can cite a number of reasons for this:

3.1.1 Web publishing

This fits the design of courses in Toronto. Publishing material on the Web is not considered a superfluous or an unjustifiably time-consuming task. The Department of French has a number of programmes of study that make use of web-based audio and textual resources. Recently two French programmes or modules have been created that rely solely on web-based resources. The entire course is delivered on the Web. This contrasts with Cambridge and Ulster where the widespread use of such resources is not as evident. This can be seen from questionnaire findings: 17% of colleagues at Cambridge and 15% at Ulster use the Web for publishing course notes or other class material, compared to 62% in Toronto. There was general willingness to use the Web to research material for class preparation in all the three institutions: 62% at Ulster, 57% at Cambridge and 92% at Toronto used the Web for this purpose. On the other hand, however, more staff in Toronto have used the Web to design language-learning exercises and material: 31% in Toronto, compared with 14% and 8% in Cambridge and Ulster respectively. It seems, therefore, that staff in Toronto are more willing to exploit the interactivity of the Web and use it as an active, as opposed to passive source of reference and teaching tool than their counterparts in the other institutions. A number of reasons may help to explain this obvious gulf in the way the Web is used:

(a) *Flexibility*: As already illustrated, Toronto has more language students than either Ulster or Cambridge, yet the latter two institutions have more favourable staff-student ratios. This means that effective communication with vast numbers of students is a key issue for staff at Toronto and the Web is used as a means of addressing this issue. In Cambridge, students have regular face-to-face meetings with tutors and, as a result, it is often considered most effective to communicate assignment details or other similar information in those meetings rather than through a web-site, for example. At Ulster, where many staff have to teach

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students on two campuses, publishing material on the Web would seem an effective way of communicating with such a disparate group of students. However, Web publishing rights are restricted. This has led many staff to send lecture notes and other material on FirstClass, rather than on the Web.

(b) *Facilities*: Our investigation discovered that facilities in Cambridge and Toronto are of a comparable standard: 62% of staff in Cambridge and 54% in Toronto believed that the computer facilities were adequate to meet their needs. Web publishing equipment and resources, on the other hand, are more widely available at Toronto. Staff in Toronto can publish Web pages from their own offices or from home through a network of University servers. Staff can also use up-to-date communal Web publishing facilities in the main University library. Furthermore, there are normally graduate students in each ML department to help staff with Web publishing. In Cambridge, these communal facilities do not exist and, if staff wish to publish on the Web, they are generally required to do so themselves without extensive help from graduate students or technicians. In Ulster, limitations in Web publishing rights make it even more difficult to use this medium to publish material.

(c) Computer literacy: The general adoption of the Web in Toronto as a means of communicating with students and a more obvious willingness to exploit its interactivity, are evidence of a greater level of computer literacy, not least in terms of Web publishing, than in either the other two universities.

(d) Pressure of work: This is particularly problematic in Cambridge where most academic staff hold two teaching posts – one in the Faculty of Modern and Medieval Languages and often another teaching position as a College tutor. The inevitable administration that accompanies both roles indicates that staff in Cambridge seem to have the greatest workload of the three institutions studied, despite the high staff-student ratio at Toronto. A consequence of this is that staff often do not have the time to publish course notes or to design courses on the Web. At the University of Toronto, staff schedules are not so full and colleagues have more time to present notes and other information in Web format.

3.2 Use of CALL (networked programs and web-based applications)

The use of CALL in Cambridge and Toronto is more common than at Ulster: 38% of staff at Cambridge (N = 42) and 77% in Toronto (N = 13) take classes in the dedicated multimedia (CALL) labs. At Ulster, this figure of those who use CALL at present is 8% (N = 13); of course, there are currently no dedicated CALL labs there. Obviously, the use of CALL by teaching staff is greater at Toronto than at Cambridge and at both these places than Ulster. Three reasons can be put forward to explain this situation.

3.2.1 Course design

Students at Toronto tend to have at least twice as many language hours per week as at Cambridge. In Toronto, for example, students have regular video and aural comprehension work: the use of digitised video and audio clips therefore seems very helpful to them and the availability of such materials on the Web allows students to work on these

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activities outside class time. On the other hand, many students and staff in Cambridge stated, in their response to one of the questions in the survey (do you consider ICT beneficial to language learning?), that computer technology is not a necessary pre-requisite of languages degrees there. Students do not need to use CALL/C&IT to complete those courses successfully. As a result, the concept of Computer Assisted Language Learning seems less relevant to them.

3.2.2 Support staff

Both Cambridge and Toronto have staff to design, prepare or purchase CALL programs and exercises. In Cambridge, there is a full-time CALL officer, and four Language Centre technicians assist academic staff with CALL work. In Toronto, there is a full-time technician on one campus, a team of six technicians based in the Computing in the Humanities and Social Sciences Service (CHASS) and a recently-appointed Director of the Multimedia Centre for Computing in Humanities. These staff are assisted by a number of graduate students from the respective language departments. Together they form a comprehensive support mechanism for preparing CALL courseware or purchasing suitable programs that would meet academic needs of language students. Inevitably, this reduces the burden on academic staff to prepare such material. This may have the effect of encouraging staff who have never previously shown an interest in developing or acquiring CALL courseware, either because they did not have the time to do so themselves, or because they lacked the technical expertise necessary to create such programs. At present, this form of support is virtually non-existent at the University of Ulster (apart from a small team of Faculty technicians who are responsible for maintaining the computers of staff in the entire Faculty of Arts). As a result, CALL courseware development at Ulster has often been left to two or three keen and interested members of staff.

3.3 Culture of language teaching

Our comparative study revealed that staff in each of the institutions, in general, adopted different attitudes towards the use of CALL/C&IT in language learning and teaching. The reasons for these different attitudes can be attributed, in part, to the culture of language teaching at each university.

3.3.1 University of Toronto

Here, we found an overall positive attitude towards the use of CALL/C&IT and general acceptance of its value as an integral part of the language learning and teaching experience. Evidence of this can be seen in the following ways:

(a) *Course content*: especially in French programmes of study, where students are widely encouraged to make extensive use of web-based and other electronic material.
(b) *Assessment linkage*: tutors in the departments of French, Italian and German award marks to students who use CALL packages in private study. All the multimedia-computing rooms on one campus are monitored by a supervisor, who

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records student attendance and reports to the relevant course tutors.

(c) *Web-site coverage*: over fifty language programmes (i.e. modules) at Toronto have a corresponding course web-site that is consulted by both staff and students and updated on a regular basis.

(d) *The role of key staff*: there are a number of key staff involved in this process of integrating CALL/C&IT into learning and teaching in ML at Toronto, including influential professors in the department of French. However, the overall acceptance of its value (evidence of which can be seen in the way that staff encourage students to use electronic resources regularly) would not be possible without the general acceptance at grassroots level in the languages departments indicated above. Evidence of this can be seen in a first and second year French language programme, which has more than ten tutors involved in posting notes and assignment details on course web-sites: in the first-year programme, in particular, students are often encouraged to submit their work electronically to tutors.

3.3.2 University of Cambridge

In this institution, attitudes towards the value of C&IT appear less positive. This can been seen in a number of ways:

(a) C&IT and CALL are not seen as essential components of Cambridge language courses but rather as optional extras, which students are invited to use.

(b) Unlike Toronto, students generally receive no apparent recognition if they spend time in the CALL Facility using CALL packages. Tutors do not award any kind of attendance marks. Those tutors who use CALL in their teaching often find that they cannot give marks that actually count towards anything, because most modules or papers at Cambridge are assessed solely by examination, usually without the inclusion of any kind of coursework marks.

These factors should not suggest an overtly negative attitude of staff towards the use of CALL/C&IT, although it would seem obvious that there is a general perception that, regardless of their value in language learning and teaching, they do not easily fit into the Cambridge experience.

3.3.3 University of Ulster

The perception of CALL/C&IT is favourable but not totally positive, as the evidence outlined below makes clear:

(a) The content of most ML courses here is broadly similar to their Canadian counterparts and many of the web-based and other electronic resources that students are encouraged to use at Toronto are used in the language courses at Ulster, although by no means to the same extent.

(b) CALL/C&IT have been easily integrated into the curriculum at Ulster because of the emphasis on coursework that is increasingly characterising language courses there. Previous CALL experience, such as that with MetaText and TAP (integral

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parts of second year French studies on two campuses) and, more recently, in the Châteauroux tandem-learning project which was part of a first year French module on the Coleraine campus, are evidence of this.

In other words, the Ulster language courses are sufficiently flexible to permit a reasonable level of integration of C&IT and CALL into the teaching and learning experience, although so far there are limited signs of such development.

3.4 Managing change

What is plain from our investigations is that change needs to be managed carefully. The JISC (Joint Information Systems Committee) workshop on Managed Learning Environments recommended that the best way to manage such change was a top-down approach. As we have seen, different approaches are taken in the different institutions.

At Toronto there is a combination of a bottom-up and a top-down approach, with considerable support from senior management. Support activity is driven by the institution's commitment to high-level C&IT/CALL research. The university is regarded as the leading research institution in Canada across all the disciplines. This provides a favourable context for research in the C&IT area. Consequently the three research groups within the French department, all of which are dedicated to research into C&IT in language learning, benefit from this environment.[1]

On a more practical level, there is a non-bureaucratic system for the process of web publishing that enables all staff easily to post material to the Web. It is straightforward for staff to publish material for teaching without any significant delay and to amend or add material when required. This is also the case at the University of Cambridge, but not yet at the University of Ulster.

We have seen that access to facilities for publishing material on the Web and the provision of support staff have affected the way that staff view CALL/C&IT in each institution. This suggests that one crucial issue in managing change is the need to ensure that adequate facilities are available to staff if they are expected to use CALL/C&IT more extensively, or even at all.

For example at Cambridge, the current support staff are under considerable time pressure and are unable to meet all the demand, both actual and potential, in the system because of inadequate staffing levels. Moreover, unlike Toronto or Ulster, there is a preference for research not related to CALL/C&IT. In the current climate of the Research Assessment Exercise administered by the Higher Education Funding Council in England there is emphasis on the need to achieve the highest scores of 5 or 5*, since these bring in correspondingly high levels of research funding. Despite recent changes to the assessment criteria of each language panel, CALL/C&IT are still not perceived as 'proper' research, nor are they likely to be recognised within the system. As a consequence, staff are reluctant to devote a lot of time to them. This has led to a lack of grass

[1]FRENETICA (Cours FRE: l'Enseignement et la Recherche encadrés par les Nouvelles Technologies de l'Information, de la Communication et de l'Apprentissage); RECALL (Research at Erindale into Computer-Assisted Language Learning) and NEF (Net des Études françaises).

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roots support and interest (see Burnage, 1999:15).

At the University of Ulster there is a perceived lack of support from colleagues in that not all participate fully, for example, in the use of the FirstClass conferencing system. Indeed 69% asked for more support from colleagues (N=13), exactly the same figure as Toronto. At Cambridge the figure, at 60% (N=42) was similar. More importantly, at Ulster it was felt that there was a lack of top-level management backing. 77% wanted more senior management support, in particular financial support. This compares with 62% at Toronto and 52% at Cambridge.

In all three institutions there was a strong demand for extensive staff induction into the intricacies of CALL/C&IT. At present, frequent and flexible training for staff is not readily available to staff in all three institutions, and yet at least two of the three have high ambitions for the future in the realm of e-learning (i.e. Toronto and Ulster). Training at each university normally takes the form of occasional seminar or workshop sessions, which is not the most effective way to train staff, since it is not sustained. According to Kassen and Higgins (1995: 265), a more comprehensive method is needed to provide a sustained training programme, such as that offered at the Catholic University of America or the ICT4LT (Information and Communication Technology for Language Teachers) online modular course. However, ironically, despite this desire for training, quite a number had problems in attending these sessions because of the many pressures they had on their time. There was also an unwillingness on the part of some to learn new skills.

One might have expected that older staff would have been more unwilling to embrace computer technology for teaching than younger colleagues. However, in each institution, many of the key players in the development of computer-based language-learning are senior and experienced members of staff and hold important positions in their respective departments, e.g. Heads of School/Department or Professors.

Significantly, although computer literacy at the University of Toronto is higher than at the other two institutions – so that there is less dependence on and need for systematic training – there is still a need for more specialised training.

What becomes clear is that, despite the progress in each institution, there is a need for change. This need is widely felt, but there is frustration that it is not happening as rapidly as it might.

4 Discussion

If we consider the reaction of staff to CALL/C&IT in the four areas considered, it would be fair to say that in each of the institutions they have been extensively used by a majority of the staff. Where there has been success, or where there have been problems, a number of key factors have seemed to be important.

4.1 Leadership

Leadership among staff at a senior level within institutions to champion and construct the costly systems needed to sustain CALL/C&IT is vital, whatever the subject area. Such leadership is available at Toronto and increasingly at Ulster (at University level with the development of the e-learning Campus One, for example, which is a distance learning environment using WebCT).

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Leadership at a senior level is also required within language subjects to steer them through the complexities of academic politics, and to gain acceptance of new methods. However it must be emphasised that leadership at the grass roots is also necessary in order to make things happen. These leaders fit into our category of Radicals. In the institutions we have studied we have seen that there are those who are ready to develop computer-based learning and to share their enthusiasm and commitment with others. These Radicals have encouraged the more hesitant or reluctant members of staff to explore the benefits of using CALL/C&IT.

Such leadership requires a clear vision of the possibilities for the future: for instance the French department at the University of Toronto has inspired other language departments (German and Spanish) to introduce e-learning.

4.2 Time

It is clear that the changes taking place as CALL/C&IT is adopted take time, since they depend not only on equipment, but also on academic organisation and learning culture and cannot, therefore, occur overnight. In each of the institutions studied, the development has been going on since 1996. In this regard staff, especially longer-serving staff, also need to be given the time to change. When they have a clear and convincing vision constantly placed before them, CALL/C&IT is readily adopted.

4.3 Common infrastructure

Crucial to this process is the provision of suitable infrastructure, hence the importance of support from senior management. The term 'infrastructure' is used in its broadest sense, embracing equipment, organisation, course design and learning culture. Significant investment in hardware, software and multimedia language laboratories is required and sensible administrative structures need to be established. Moreover, for the full benefits of C&IT to be enjoyed, the design of courses needs to be tailored to the possibilities provided by this new technology and CALL should be built into the assessment system.

This conclusion is illustrated by the success of the University of Toronto. There, access to the Internet has drawn many aspects of computer use for teaching together. There is a well-developed network: as mentioned earlier, the Web has been adopted by staff and students in languages as the primary means of presenting course material, such as lecture notes, as well as assignment details. During the academic year 2000–2001, the French department experimented with a web-based bulletin board system that allowed students on one course to submit coursework to their tutors electronically.

On the other hand, at Cambridge there is no one overall system. This situation means that the kind of extensive infrastructural development required for a fully functional system will be difficult to achieve. At the University of Ulster significant recent steps have brought about a common infrastructure with a University-wide student network and the adoption of WebCT as the University standard for the delivery of web-based learning. The University is now in a position to make more rapid progress towards the adoption of such methods. Pilot projects with WebCT are already in train within modern languages during the academic year 2001–2002. This has been a significant factor in convincing staff of the value of C&IT.

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4.4 Training in systems and resources

Staff development is crucial to the widespread adoption of CALL/C&IT. While staff remain fearful, reluctant or incompetent they will not make use of it. In the institutions concerned, many staff are now computer literate – that is, they are able to use proprietary software such as word processing and databases as well as the Internet, whether for e-mail, FirstClass or the Web. This has made the adoption of CALL/C&IT in language learning feasible and widespread.

4.5 Pragmatism

The evidence of our study indicates that staff embrace this new technology and these new methods when they see clear evidence that they add value to their teaching and enhance the performance of their students. Our findings agree with those of Lam (2000: 413), who argues that if colleagues feel there are benefits to using computer technology, they will use it. In each of the institutions, to a significant degree, this is clearly happening. Once the leadership, time, infrastructures, training and computer literacy are there, everything indicates a willing acceptance of CALL/C&IT in language learning and teaching.

4.6 Institutional development

In these terms, each of the three institutions that have formed the basis of this case study is at a different point in respect of the adoption of CALL/C&IT by staff. The University of Ulster is, at present, clearly less developed than the University of Cambridge, which is less developed than the University of Toronto. Indeed, languages at Toronto are close to becoming well-founded in the area of CALL/C&IT. At the other two institutions, for different reasons and in different ways, there is still work to be done. However, in all three institutions, CALL/C&IT is being adopted in a positive spirit by most staff.

5 What about the three Rs?

Our previous characterisation of staff as resistants, reluctants and radicals led us to expect to find staff being assigned to each of these categories across the three universities. However our overall findings indicate something significantly different.

- There is some *reluctance* to use CALL/C&IT based on pressures of time, or a perception that it is not valuable or beneficial in terms of time or resources.
- There is no significant *resistance*, extreme or otherwise, to CALL/C&IT, although there are a few conservatives and technophobes in each institution, some of whom simply refuse to use computers at all.
- There are, strategically, a number of *radicals* at Cambridge, Toronto and Ulster who provide most of the leadership and momentum in developing computer-based language learning at these institutions.
- More significantly, the majority of the staff are *pragmatists*. They have been

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broadly accepting of CALL/C&IT because it has brought a significant number of benefits, in other words, it works.

- As a result of these findings, the following taxonomy of staff may be considered to be more appropriate and accurate:

  – *Radicals*
  – *Pragmatists*
  – *Conservatives*

Perception of the value of CALL/C&IT is what separates *Radicals* from *Conservatives*. *Radicals* are completely convinced of the value of CALL/C&IT and are keen pioneers of it. *Conservatives* are happy with what they know and with the skills they have already acquired and are not convinced of the value of the effort they see is required to adopt new methods. *Pragmatists*, and they form the great majority in each institution, are willing and likely to use CALL/C&IT with enthusiasm when the following conditions are fulfilled:

- Extensive, up-to-date facilities are available
- The majority of staff are computer literate
- The culture of teaching and learning is progressive and therefore open to new methods
- Course structures incorporate the use of C&IT in a significant way
- Course assessment is reliant, to a greater or lesser degree, on C&IT.

The flexibility of the Internet has proved invaluable in integrating the use of electronic communication and CALL into one common framework and has allowed a wider application of C&IT to modules and courses. This pattern has worked at Toronto – the radicals have brought along pragmatists, because of the common framework that exists there. Such a common framework does not yet exist at Cambridge or Ulster, although it seems closer at UU than at Cambridge.

Be that as it may, acceptance is increasing because CALL and C&IT have begun to prove themselves, though it is clear that there is some way to go before they are fully integrated into the learning environments of universities. However, the findings of our study show that staff reaction is both positive and pragmatic. Consequently, as infrastructures improve and courses use computer technology more and more, there is no need to fear a negative staff reaction: on the contrary. All that needs to be done is to continue the effective development of computer-based learning that can be seen at Toronto and to a lesser extent at the other two institutions.

References

Burnage, G. (1999) Teachers and technicians: working together for effective use of information technology in language and literature. In: Porter, S. and Sunderland, S. (eds.), *Teaching European Literature and Culture with Communication and Information Technologies*, Oxford: CTI Centre for Textual Studies, 8–13.

Fox, M. (1997) The teacher is dead! Long live the teacher! Implications of the virtual language

https://doi.org/10.1017/S0958344002001015 Published online by Cambridge University Press

classroom, *Active Learning* **7**:1–6.
Gillespie, J. H. and Barr, J. D. (2000) paper delivered at *ALT 2000*, UMIST, Manchester, UK.
Gillespie, J. H. and McKee, J. (1999) Resistance to CALL: degrees of student reluctance to CALL and ICT, *ReCALL* **11**(1):38–46.
ICT4LT: http://www.ict4lt.org/
JISC (Joint Information Systems Committee) workshop report on Managed Learning Environments. http://www.jisc.ac.uk/pub00/mle/final_rep.html
Jones, C. (1986) It is not so much the program, more what you do with it: the importance of methodology in CALL, *System* **14**(2):171–178.
Kassen, M. and Higgins, C. (1995) Meeting the technology challenge: introducing teachers to language-learning technology. In: Murray, D (ed.), *Knowledge Machines: Language and information in a technological society*. London: Longman.
Lam, Y. (2000) Technophilia vs. Technophobia : a preliminary look at why second-language teachers do or do not use technology in their classrooms. *The Canadian Modern Languages Review* **56**(3):389–420.
Stepp-Greany, J. (2002) Student perceptions on language learning in a technological environment: implications for the new millennium, *Language Learning & Technology* **6**(1):165–180.

https://doi.org/10.1017/S0958344002001015 Published online by Cambridge University Press