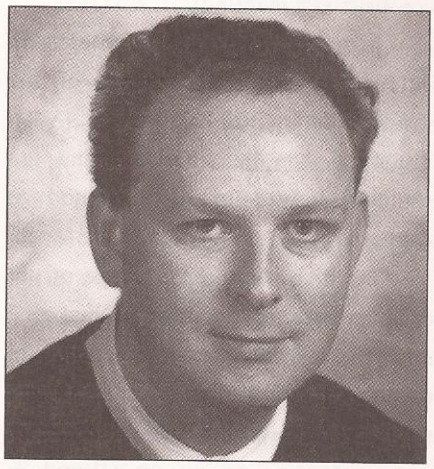
CAN YOU USE COMPUTERS TO TEACH COUNSELLING?

***Robert Shaw* explores the difficulties and benefits of applying Computer-Assisted Learning to counselling education. His findings are important for all subject areas where experiential learning is central.**



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PRESSURES TO USE CAL

The issue of computer-aided technologies within counselling education arose during the Certificate in Professional Practice in HE (CPP) programme, designed to help newly appointed academic staff at the University of Derby become critically self-reflexive over their teaching practice. It is clear that within HE resources are being directed towards ever more complex computer-centred learning. The issue for counselling education is whether such methods are appropriate and, if so, what is the best mode of delivery.

Since counselling education relies heavily on experiential learning and is thus social constructivist in nature (Atkins et al, 1993; Lebow, 1995), there would appear to be a conflict with the use of computer-assisted learning (CAL) as it tends towards individual-based learning. My purpose, therefore, is to explore this apparent tension and to look at appropriate uses of CAL within counselling education. Although this paper primarily relates to counselling, there are clearly wider implications for other disciplines which rely on experiential learning, and whose students are predominantly mature and studying for vocational qualifications.

In assessing the appropriate use of CAL, we hoped to identify its potential uses and develop a framework of good practice in CAL within both counselling and related vocational subjects where shared group experience is a significant aspect of the learning process.

CURRENT DEBATES

My intention here is to highlight some of the current debates relating to CAL and constructivist learning. It is not possible to provide a comprehensive review of CAL here as the subject is, quite frankly, too vast for the scope of this paper. I will also briefly discuss open and distance learning (ODL) as this has a part to play in CAL.

One of the main points to emerge from the literature is that CAL can improve the speed with which people learn. This has been noted by Mottram (1995) who made a link with HE's problem of increase in teaching load combined with a decreasing resource base: CAL is viewed as a mechanism for alleviating the teaching load for hard-pressed academics. Maul and Spotts (1993) also observed that, although CAL methods may not necessarily show any difference in learning compared to more traditional teaching, there is a significant decrease in the time taken to teach material using CAL. Teaching in these contexts is seen as knowledge transfer and is not perceived as an interactive process.

However, it is interesting that there are connections being made to constructivist learning. Silverman (1995) suggests that students prefer to use CAL in a constructivist environment; this implies a more collaborative approach to computer

learning.

This use of CAL seems to be one way of emphasising the social constructivist approach to learning and would seem appropriate to the counselling setting and other disciplines which encourage experiential learning. There are other authors who suggest collaborative work can be achieved via electronic networks (Magidson, 1992; Levin, 1994) and thereby enhance constructivist learning.

There is also a growing interest in interactive CAL. An example of this would be virtual reality (VR). Situations can be simulated and the student allowed to react (Wood & Authers, 1995; Dennen & Branch, 1995), which has the advantage of not causing harm if the student makes a mistake. Examples of current VR in education include flight simulators and some medical procedures. These are very expensive to set up (Wood & Authers, 1995), but it may be possible to use this technology for counselling with difficult clients and for looking out for signs of suicide risk or psychopathology.

There seems to be a consensus that CAL can help achieve deep learning whereby knowledge is not simply learnt by rote, but is assimilated in a fashion that enables the student to use the knowledge in a meaningful way. This does require that the student be well motivated - which also applies to traditional learning environments. Use of video, compact disc and audio equipment does allow for more than one sense to access information simultaneously which may partly account for the success of CAL in achieving deep-learning. However, in order to create such interactive programs, considerable work and time is required (Neesham, 1992). One might argue that this does not actually differ very much from traditional teaching.

NON-DIDACTIC SYSTEMS

Although much teaching is still based on the didactic approach, which probably led to CAL's initially being seen in the same mould, it is interesting to see increasing variety. An example is the so-called intelligent tutoring systems (ITS), which guide students and encourage investigation and learning (Soloway, 1991; Lai, 1995). The claim is that such systems strengthen and improve the learning process, as they are not just based on factual knowledge, but require creative engagement with a knowledge base. The TOTAL (Macromedia, 1987-1993) system currently used at the University of Derby could be employed in this approach.

Another example of the impact of CAL is in its use of the Internet and conferencing. The Internet has great potential for education (Mulligan, 1995): from the constructivist perspective there is the opportunity to join mailing groups and share ideas. This can also be done via CAL and teleconferencing (Davis & Smith, 1994).

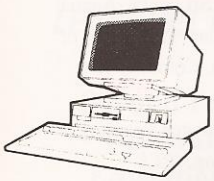
OPEN AND DISTANCE LEARNING (ODL)

One of the current trends within HE is that of student-centred learning. The basic tenet of this method of teaching is to allow the students to govern their own pace of learning. The added advantage of ODL is that the student is able to choose the location for learning. In this country since the launch of the Open University in 1971, high standards of ODL have been achieved (Schofield, 1995). Many institutions are now taking ODL seriously and beginning to offer advanced learning via this medium (Valley, 1995). However, there is a lack of social interaction which would seem to limit ODL from the constructivist position. This was highlighted by Ismail (1992) who noted the importance of face-to-face contact as a significant factor when using ODL. The introduction of such contact improved the effectiveness of the ODL programme.

Some form of social contact is required to obtain the best results from using ODL. This could also be said of CAL. Perhaps a method of improving the effectiveness of ODL would be the use of conferencing via video link or less expensively via the Internet. The use of the Internet for discussion groups is becoming ever more popular. It would seem a relatively simple matter to set up e-mail groups and link them to specialised ODL groups. This type of conferencing could also be employed as a supervisory activity within counselling. In this case students from multiple locations could present case material to a group which included a tutor/supervisor. This would allow for the exchange of views and opinions on material and thereby introduce an element of constructivist philosophy into the learning process. The most obvious drawback to this would be the necessity for the students to have access to the Internet. This type of contact would be seen as an adjunct to and not a replacement for social contact via workshops or summer school.

PRACTICAL IMPLICATIONS

The discussion so far has been centred around the potential uses of CAL from the perspectives of social constructivism and implications for experiential based learning. Undoubtedly there are many uses for CAL, the main ones being communications, information and teaching. Communication would include e-mail, discussion lists and bulletin boards, and conferencing with implications for distance learning as



already mentioned.

Information can be obtained from either discrete or networked databases. Teaching can be seen as either an open or divergent system which allows for interaction and an evolution of the teaching process, or a closed or convergent system. The predominant mode of teaching in these cases is based on computer-based tutorials.

SETTING UP CAL

There are several issues which need to be addressed.

Since students cannot ask questions while engaged in CAL, an assessment of prior knowledge is required. Clear objectives need to be set out which could be related to learning outcomes for a particular module. Assessment of what other resources students needed is also essential. This is an important issue for counselling students. Many post-graduate counselling students have been away from full-time education for some time. Many are suspicious of computers, and are technophobic, lacking self-confidence when faced with a technological situation of which they have little understanding. Careful and sensitive induction into the use of computer equipment would seem imperative if CAL is to have any success with this group.

Finally, an analysis of feasibility and time costs is needed. Although in the long term, such technology may decrease contact time, seting up CAL is labour intensive.

Careful thought to the type of CAL to be employed is a crucial stage in the development of a system that will be of help and, more importantly, used by the students. From the perspective of counselling education and constructivist learning, the environment would seem important. The usual arrangement is one seat placed in front of one monitor, in either the library or computer lab. Possibility for more than one person to look at the screen and interact with the material is limited, especially with only one "mouse". It would, therefore, make sense to allow more space around the monitor for small groups of three to four to interact with the material. It may even be possible to have multiple "mouse" connections which would enhance the social interactivity. The positioning of computers could be improved by putting them in areas where such social interaction would not disturb others.

For CAL to be relevant to this group of students a more interactive forum is required. This could include the use of video footage of counselling sessions integrated into discussions on theory. Since there is often much debate as to whether a particular intervention should be employed, several response options should be available. Thus a more divergent system could be set up with the student or students following a particular branch of inquiry. Such systems would obviously require a lot of time and effort to construct. However, the potential for such interactive systems is that they will promote an integration of theory and practice. Also, it would be hoped that deep learning and an integration of knowledge and understanding would be achieved.

It would also seem important to integrate CAL into the course rather than simply add it on. This would require considerable thought, but if achievable would help to enhance the students' learning experience.

A progression of CAL approaches would seem apposite. Within counselling education, CAL could be initially introduced to test the knowledge base. Although counselling education is at a post-graduate level, many students have been out of full-time education for some time, and so it cannot be assumed they have enough relevant knowledge of contemporary counselling theory. Short 10 to 15-minute tutorials with simple true/false multiple choice type questions could be employed to help enhance their acquiring a sufficient knowledge of basic counselling theory.

WIDER IMPLICATIONS

If CAL is to become a popular mode for the delivery of teaching material, then the traditional role of the lecturer is likely to change. Within counselling it could be argued that the traditional role of the lecturer has already changed. Social constructivist philosophies and a highly motivated post-graduate group of students suggest that a facilitatory role is more appropriate than a formal lecture. Although lectures are given, much use is made of group work and discussion sessions. However, it could be envisaged that with learning material primarily in CAL or ODL form, lecturing per se will become outdated. The sequelae of this situation might be a reduction in lecturing staff. This would be an ironic position since CAL has been seen as a means of alleviating teaching loads (Mottram, 1995). The result of decrease of teaching load may well be redundancy!

On a more positive note more time could be made available for research. Once CAL systems are set up, updating material may be achieved fairly easily. Therefore, time-consuming lecture preparation time can be saved and may be used for research purposes.

There are certain requirements for students who will be using CAL. They need access to a personal computer, which may be problematic for post-graduate students, who are also part-time and therefore do not have ready access to university facilities. The cost

of buying equipment may be prohibitive, especially in conjunction with course fees. Finally, as already mentioned, students on counselling courses tend to be wary of computer technology. Indeed, one of the reasons they are drawn towards counselling is to explore the human relationship, not the relationship between human and machine

If the slogan *'where learning is for life'*, which has become a rallying cry of the University of Derby for adult learners, is to mean anything for counselling students, then the introduction of CAL and ODL packages needs to be handled sensitively and with an awareness of the concerns of such students. If this is not addressed, then the likelihood is that students will go elsewhere. Indeed, the general feeling amongst this group of students is that they would avoid courses which contained CAL as a teaching medium. The quality of contact with teacher and fellow students is perceived as one of the strengths of vocational courses like counselling. In any subject where there is an exploration of personal material, personal support is seen as an essential aspect of the course. Students, therefore, perceive the loss of human contact via the use of CAL as very negative.

It is vital in any development of such systems that students are consulted and CAL programmes are piloted on existing students prior to implementation on a new cohort. This process is likely to be very time consuming and staff will also be required to attend training in the sensitive and appropriate use of CAL. The institutional pressures to design and implement such systems need to be carefully balanced with student needs. This is without doubt a difficult task. However, if this balance is not achieved then CAL systems will not be used, and students on courses which up to now have incorporated experiential based learning may well feel alienated and not register for courses which include CAL.

CONCLUSION

CAL and ODL are likely to develop into ever more sophisticated systems, so that those available today will be unrecognisable from those developed within the next few years. However, this paper has highlighted the need to incorporate a social constructivist methodology into the use of CAL and ODL. In addition, before incorporating these systems a considerable amount of effort needs to be spent on addressing the potential fears of the students; if the students are not going to use these new technologies, then there is little point in having them.

The potential for enhancing the learning experience of these students by CAL and ODL should not, though, be understated. Computer literacy is likely to be a necessity for the next century. There is within counselling education and related vocational disciplines a great opportunity to use CAL as a means to underline and amplify one of our main goals, namely the integration of personal skills, theory and practice.□

References

Atkins, M.J., Beattie, J. & Dockrell, W.B. (1993). **Assessment Issues in HE**, Department of Employment.

Davis, J.L. & Smith, T.W. (1994). Audiographic Teleconferencing, Interactive Satellite Broadcasts, and Technical Japanese Instruction from the University of Wisconsin-Madison, *IEEE Transactions on Education*, **37(2)**, 228-334

Dennen, V.P. & Branch, R.C. (1995). Considerations for Designing Instructional Virtual Environments, Annual Conference of the International Visual Literacy Association, Oct. 18-22, Chicago USA

Ismail, A.G.H. (1992). Face to Face and Distance Learning in Sri Lanka, Annual Conference of the Asian Association of the Open Universities, Colombo Sri Lanka, Sep. 17-18.

Lai, L.L. (1995). Computer Assisted Learning in Power System Relaying, *IEEE Transactions on Education*, **38(3)**, 217-223.

Lebow, D.G. (1995). Constructivist Values and Emerging Technologies: Transforming Classrooms into Learning Environments. Proceedings of the 1995 Annual National Convention of the Association for the Educational Communications and Technology, Anaheim, California, USA.

Levin, J. (1992). Teaching Teleapprenticeships: a New Organisational Framework for Improving Teacher Education using Electronic Networks, *Machine Mediated Learning*, vol **4(2-3)**, 149-161.

Macromedia, Inc. (1987-1993) Authorware(R) Professional(tm) for Windows (version 2.0.1.)

Magidson, S. (1992). From the Laboratory to the Classroom, Annual Meeting of the American Educational Research Association, April 20-24, San Francisco, California, USA.

Maul, G.P. & Spotts, D.S. (1993). A Comparison of Computer Based Training and Classroom Instruction, *Industrial Engineering, vol 25(2)*, 25-28.

Mottram, D. (1995). Search for a Pharmacy that Works (computer assisted learning for pharmacy students), *Times HE Supplement*, (10/3/95) no 1166, p6

Mulligan, M. (1995). Embryo University or Anorak Academy? *The Financial Times*. (11/12/95) no 328, p12.

Neesham, C. (1992). Making a Drama out of a Dry Subject, *Computing*, Nov.19,36-38

Schofield, P. (1995) Opening the Gates to Academic Excellence, *The Independent*, (22/6/95)

Silverman, B.G. (1995) Computer Supported Collaborative Learning, *Computers & Education*, *25*(3), 81-91.

Soloway, E. (1991) Quick, Where do the Computers Go? *Communications of the ACM*, *34(2)*, 29-34.

Valley, K. (1995) Open Space for Anytime Learning, *Times HE Supplement*, (8/9/95) no 1192, p11

Wood, L. & Authers, J. (1995). Conceptual Training; Use of Multimedia and Simulations in Training, *The Financial Times*, (17/11/95) p14.

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