

ICT in Careers Education and Guidance: Potential and Research Needs

Marcus Offer

ICT is a collection of our most interactive guidance resources if we exclude those that require face-to-face contact. Even that is an understatement if we include videoconferencing. So it is clearly something we need to understand, monitor and evaluate, train people carefully in the use of, and integrate fully within our policy and practice.

One reason for giving importance to it is that ICT-based resources include a wide range of activities and interventions relevant to careers education and guidance (CEG) as we know it. These include:

- self-assessment exercises;
- psychometric tests and assessments (increasingly administered, scored and interpreted on-line – Bartram, 1997);
- programs to match self against opportunities;
- various powerful methods of managing and retrieving individually relevant information from vast resources now available (including hundreds of millions of pages of data on the World Wide Web);
- games and simulations (including virtual interviews and multimedia work experience);
- relatively content-free decision aids and prioritisation exercises;
- skills training for job search and application;
- dedicated word processing packages with on-line tutorials.

There are also many facilities to enable the user to develop their own materials, do-it-yourself teaching resources and authoring programmes and, above all, a wide range of channels for interpersonal communication and experience exchange across the world. What is surprising is not that ICT is high on our list of resources, but that so little of its potential has been exploited by the guidance community so far.

In part this is because of a continuing lack of research. We do not really have conclusive proof that using any specific UK computer-assisted guidance program, let alone the Internet, actually delivers guidance outcomes or that it is better at doing so than any other resource. This situation would be much worse if it had been left to UK researchers: most of the work done so far comes from outside Europe, and much of that focuses on the effectiveness of individual systems, rather than the general validity or added value of using ICT in CEG. The honourable exception of PROSPECT is the exception that proves the rule: it is the one UK system that most resembles in its comprehensiveness and theoretical grounding the sort of systems that have been evaluated in the USA. It has been more thoroughly evaluated and analysed than most (e.g. Watts & Jackson, 1999). In the UK, in the main, we have allowed a thousand flowers to bloom and flitted from one to the other on the shifting breezes of government policy and 'pump-priming' without worrying too much apparently whether what the money was spent on delivered the goods, or delivered it better than cheaper alternatives. It is even difficult to establish what exactly is used or available for use, given the large numbers of smaller programs in this

country which deliver various individual guidance outcomes, let alone to find out how good this use is.

The most recent evaluative research of this kind in the UK, a government-funded project carried out by a team from the Scottish Council for Research in Education and JIIG-CAL (DIEE, 1998), confirms what Garis & Niles and others in the USA had been saying for some time: 'computer-assisted guidance (CAG) systems may be most effective when they are not used as "stand-alone" interventions'. (Garis & Niles, 1990). The SCRE research suggests that computer support by itself is insufficient to make a significant difference to the overall level of career preparedness of students and that it is likely to be more effective when integrated within a good careers education programme. An additional point to notice is that the 20 or so items of software reportedly available in this survey of 22 schools in eight careers service areas in the UK represent only a small proportion of the estimated 150+ items available for use at that time (Offer, 1997) and largely focus on matching people to possible careers or heightening their awareness of career opportunities – a fairly narrow range of the possible activities listed above. The programs concerned are free-standing CAGS. Since then, the Internet has added vastly to the quantity of such resources available.

On the other hand, ICT is not essentially different from all other resources in guidance: to decide when and how to use it, we need a prior notion of what we are about in CEG – the outcomes and process of guidance – against which the relevant materials and interventions offered by it can be mapped. There have been very few attempts in the UK to relate the use of

ICT to theories of guidance or career choice, though trait-and-factor approaches implicitly underpin many of the principal programs in use. Can it be shown that European, as opposed to transatlantic, use of computer-assisted guidance and the Internet is based on a thorough analysis of the careers education and guidance process and that it delivers the required outcomes? Does it, moreover, deliver these by itself or in conjunction with what other resources and forms of intervention?

Watts (1996) listed four models of integration of computer systems into guidance programmes – stand-alone, supported, incorporated, and progressive. These terms were entirely reasonable at the time, but the increasing use of the Internet in CEG since then, despite a sluggish and patchy response from the guidance community in the UK, raises some questions about these as definitively different modes. Is a computer-based resource standing alone when connected by e-mail, or by a conferencing link or by a hotlink to a Web-based tutorial, and so on? Modes and quality of 'support' can also vary widely now: the context may not be a guidance centre, school or college. 'Guidance Otherwise' mirrors the growth of 'Education Otherwise' and 'kitchen table guidance' may have access to a range of resources that surpasses what was once available only in a formal career library. 'The computer system' which is 'used within another guidance intervention' (Watts, *ibid.*) may itself incorporate and convey that intervention, as a resource used within it, and the developmental or 'progressive' sequence could start with e-mail, move to the World Wide Web, and end with videoconferencing.

To tackle the practical problem of integration we need to look at how we diagnose guidance needs anyway and map them on to resources. The readiness of the user to handle the resource or make a decision, the complexity of their external situation, and the phase of the guidance/career decision cycle they have reached, have

a bearing on this, as does the difficulty, complexity and style of the resource itself. The work of Sampson et al. (1999) on this has led to a renewed interest by some Midlands careers companies in diagnostic systems and processes, and, along with my own 'Resource Matrix' (Offer, 2000) coincides with concerns about how the needs of average guidance seekers can be met when specialist guidance resources are refocused on the most disadvantaged. How do we avoid under-serving some and over-serving others? Is ICT most appropriate as an outreach tool to people and communities in times and places where guidance did not go before? Or is it a way of providing a (second-best?) alternative for those mainstream users who are not deemed to have urgent or major needs for support? The increased use of the Internet means that such users could potentially meet their needs on-line and get information, advice and guidance from anywhere in the world.

What is new about the situation is that CEG resources are now essentially beyond the control of a guidance community based on privileged access to information, yet the essentially non-hierarchical nature of the Internet raises the old problems of trial and error which guidance was essentially invented to resolve. We need to think hard about how quality can be defined, let alone assured, in the new ICT context.

Some, again outside the UK, have drawn up detailed standards for the quality of labour market and related information on the Web (CLFDB, 1999). Is this King Canute all over again? Or can kite-marking deliver the goods? Millions of interactive households will soon have access to everything from their TV sets, regardless of such standards. How will we get them to pay it any attention? The 'Good Guidance Guide' or some such kite-marking programme will require regular and systematic monitoring as well as a consensus about criteria: we may disagree with the detail of what the CLFDB has developed but

such work has a valuable role at a superordinate level.

Guidance Council quality standards have been developed for the use of ICT and for 'guidance at a distance', but the most difficult part of doing so has been the definition of what we are evaluating. Is guidance delivered solely from a web site essentially different in terms of what we might regard as quality in guidance given via a telephone helpline, or got from a (self-help) book?

One really crucial problem for research is how 'information' in guidance is individually constructed from 'data'. If we knew more about the principles of this process, perhaps we would have a better idea of how to design effective Web-based guidance. Typically each person 'does not simply register new information, but actively constructs meaning out of it by making an effort to interpret it within his or her existing knowledge base .. (and this) .. will always be a personal one' (Boreham & Arthur, 1993). It follows that 'it is not sufficient simply to offer career decision-makers the information which, from an external point of view, they need in order to make a decision. If they are actually going to make use of it, they also need to be educated to make use of it, in the sense of developing an appropriate set of concepts for understanding it' (*ibid.*). As far as possible, then, the general context of use of ICT in guidance should be interactive, not passive, and should engage users in an educational process in the broadest sense. We need to work out how best to do this.

It may help to look at what ICT has to offer, as opposed to raw information/data (in overload), a 'non-human' or 'mechanical' process. The Internet has also created vastly increased opportunities for social contact (via e-mail, chat, conferencing, etc.) and the format of a guidance web site should perhaps include an on-line forum to encourage interaction about the informational content. New forms of guidance interaction, one-to-one or in groups, in real time or asynchronously,

are practicable. What are the new skills? What should the content of training for guidance counsellors, teachers and personal advisers of the future be, in the light of this?

On the one hand, this is a problem long since faced by designers of traditional distance learning material – how to motivate and engage learners, when you are not there in person to give feedback, ask and answer questions, sort out misunderstandings. As Tait (1999) argues, new technologies provide the potential for ‘enormously enriched interaction, which is of course human albeit at a distance’. He goes on: ‘While clients may be working at a distance in the literal sense, distance in a range of metaphorical senses may be diminished by the new technologies ... distance can be understood as a metaphor for the varied and interlocking ways in which inclusion and exclusion in society operates ... Rather than assume that crucial elements are lost when human relationships are mediated by technologies, it seems more fruitful to examine how they have changed.’

At the same time there is clearly as much a careers education as a careers guidance task here. What we should be seeking to develop are educated, critical users, capable of deciding for themselves whether what they are being told is true and in whose meaning of that word, as well as where to seek corroboration, check credentials, and find alternatives. They also need to be able to assess their own needs, and take effective steps to get appropriate resources to meet them. This is a task familiar to classical liberal education, of course.

As Watts (1996) suggested, we may have reached the point at which ‘the locus of control in the usage of such systems – which in the first period belongs to the system, and in the second to the interactive interface between system and individual – passes to a much more significant extent to the individual.’ But will someone now provide us with the evidence, please?

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