

MOTIVATION, PARTICIPATION AND CO-LOCATION

Key aspects of Technology-based learning in Adult Basic Education

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1. INTRODUCTION

Few adults in the UK are without some literacy or numeracy skills. What is normally in question for entrants into Adult Basic Education (ABE) is the functional level of those skills in particular societal contexts. A typical ABE learner will be a man or woman without academic qualifications for whom conventional schooling has failed, often traumatically. In adult life, they will have developed multiple coping strategies that mask their basic skills deficits in most everyday situations. Changes in their life circumstances e.g. the need to cope without a partner, through bereavement or divorce, prompt their entry into ABE. Frequently, as the majority of adult basic skills learners come from the most disadvantaged sectors of UK society, participation is an obligatory condition for their continued receipt of state benefits.

This paper discusses how members of one ABE organization have responded to the challenge of developing a computer-supported collaborative learning (CSCL) practice that genuinely supports their vision of individual and community empowerment as the central goal of adult basic literacy and numeracy education. The data presented here are drawn from an ongoing, longitudinal field study being carried out at an ABE Open Learning Centre (OLC) in the post-industrial South Wales Valleys, a region currently ranked among the most socio-economically

deprived in the EU. Since late 1997, developing CSCL activities at the OLC have offered a unique opportunity to observe and record a period of intense educational and organizational change that has been taking place, and is best understood, against a background of rapid expansion in the UK ABE sector.

For much of the post-war period, ABE in Britain has been chronically under-resourced, as a consequence lagging behind schools and universities in computer-based learning development. In 1997 a New Labour government was elected, whose policy of “education, education, education” is expressly linked to information and communication technologies (ICT), with the aim of creating a world-class “information society”. This has brought major changes in the status of ABE. A steep rise in funding, and a plethora of government initiatives resulted in a rapid expansion of provision. The establishment of mandatory national curricula in basic literacy and numeracy has been accompanied by a restructuring of the ABE funding regime, which now follows individual students and is closely tied to measurable outcomes in terms of qualifications. There is greatly increased financial pressure on ABE organizations to recruit, retain and qualify as many students as possible.

Publication in 1999 of findings by a government-commissioned investigation into adult literacy and numeracy needs (Moser, 1999) further focused attention on ABE by claiming unexpectedly high levels (national average around 20%, around 7 million people in England and Wales) of basic skills deficits in the UK population. The report also again proposed ICT as a means of dealing with the “basic skills crisis” - without providing any clear suggestions as to how such a policy could, or should be implemented. In response there has been an upsurge in technology-based

ABE initiatives. These are necessarily based on very limited prior experience, and there a growing need for appropriate theories, tools and methods for the development, delivery and evaluation of CSCL in ABE but, as yet, little academic research to which practitioners can turn for guidance.

2. DEVELOPING CSCL PRACTICE AT THE OLC

2.1 The Open Learning Centre: background and setting

The Pontypridd College School of Basic Skills Open Learning Centre (the OLC) is located in the South Wales Valleys, where the decline of an economy traditionally based on coal and steel production has brought change and hardship to local communities. As the main ABE providers in an area with high unemployment, historically low levels of educational attainment, and significant literacy and numeracy deficits (estimated at up to 40%) among the local population, the OLC and its allied outreach centres form an integral part of local economic and social regeneration strategies. Over the period 1997-2002 the OLC has rapidly expanded (by more than 50%) in terms of both provision and resources. Currently, around 20 full-time managers, tutors and administration staff are supported by 30 part-time tutors and 40 volunteer teaching assistants in dealing with a student body of around 3000 enrolments p.a., on a current yearly budget of approx. 1m GBP. Logistical and technical support is provided by the OLC's parent organization, a College of Further Education. CSCL development began in early 1997, when, following a number of successful outreach community education projects using laptop computers, the then Head of School was instrumental in gaining an award which funded the equipping of a newly acquired town centre premises with broadband Internet access and a local

area network (LAN) of personal computers (PCs) and peripherals. The move to this well-equipped, technology-rich building precipitated a period of major change, conflict and expansion within the organization.

2.2. Crisis and innovation: Initial stages 1997-9

Once installed in the new premises, Centre staff mounted a successful enrolment campaign. In terms of recruitment, ICT access was a major asset. Many of the new students commented that although they had not previously considered ABE as an option, the prospect of using computers and the Internet had attracted them. Over the following two years, technology-based practice at the OLC developed in three distinct forms. In the first, ABE teaching and learning continued much as before, with the presence of the ICT tools often an irrelevance or distraction. Tutors and volunteers working with these learning groups typically had little experience of, or interest in, ICT; as a consequence, learners who wished to make use of the computers (now up to 10 PCs in every classroom, plus scanners and printers) were encouraged to “get on with it” with minimal supervision. Few measurable basic skills learning gains were made as learners used the technology to “play around”, explore, or pursue their own agendas; such activities increasingly diverted tutors’ attention and distracted those learners engaged in traditional literacy and numeracy tasks. The effect was to fragment group cohesion and produce growing dissatisfaction. Although the staff involved recognised that there were problems, they were reluctant to address them directly, through the development of new classroom strategies, undertaking personal ICT training etc., being already severely time and resource constrained.

The second form of practice comprised courses with titles such as “Computer Literacy and Information Technology”. Focused directly on ICT skills, they used externally developed teaching materials to support training with office applications such as word-processors and spreadsheets. Staff recruited to deliver these courses were ICT-competent rather than ABE-experienced, although expected to undertake in-house training in basic skills education. Such courses proved easy to recruit for, developed waiting lists of prospective students, and made significant contributions to income through “bottom line” figures for recruitment, retention and outcomes. However, it was evident that many of the learners attending them differed from other OLC clients. Few had significant ABE needs; some were highly literate and numerate, well-educated professionals or retirees looking to gain or “top-up” ICT skills. Their presence in the OLC cast screening, admission, assessment and accreditation practices into doubt and marked an unforeseen change in direction. This situation was inherently unsustainable, and promised crisis. The Centre risked encroaching on the territory of other local education and training providers, calling into question its specialist status and, ultimately, the basis of its funding regime. However, the influx of skilled and articulate learners was far from being an entirely negative development; it challenged the “ghetto” nature of basic skills, bringing a wider social mix within the OLC. It was notable that some members of these classes willingly mentored their co-learners, and a number were subsequently recruited as volunteer tutors to more ABE-oriented ICT groups.

The third type of ICT/ABE courses developed during this period aimed at a more integrative approach to technology use. Initially peripheral to the day-to-day practice

at the centre - classes were conducted in the evenings, and were led by part-time tutors and volunteers - they were effectively given *carte blanche* by OLC managers, who recognised that the lack of experience or guidelines made experimentation a necessary, and potentially fruitful, option. These courses made little use of prepared materials, moving from initial introductory sessions into “hands-on” learning activities that were mainly student-led. The focus was on communicative action through the Internet and WWW, from using email and browsing web sites to the creation of personal pages using HTML and participation in online VR worlds and MUDs. It was in these classes that the first computer-supported learning at the OLC that was undeniably collaborative took place. Pair and group work was frequent, extensive use being made of the LAN for intra-group communication and the joint production of computer artifacts. Tutors acted primarily as facilitators, while working to develop suitable accreditation strategies. There was an unusually high (compared to traditional practice) degree of participation in the design of the course structure and activities by learners and volunteers. The lack of experience and established policy and the student-centred tradition of ABE combined to bring about a situation of organizational flexibility that provided opportunities for the participatory design of computer-mediated learning activities. Minimal external technical support meant that available development resources – the network, applications – were under the direct control of the users. Practices already in place in the organization, the presence of suitable mediating artifacts, and the interactive nature of the technologies involved supported focus groups and cooperative prototyping as appropriate development methods. Through the medium of the

broadband Internet connection, participants were able to access information relevant to the activities in hand (Harris, 2002).

2.3. Reflection and consolidation: 1999-2002

During the period outlined above, a range of educational and administrative issues associated with ICT use emerged. Occasionally staff or learners' Internet use was seriously inappropriate, bringing new legal and disciplinary challenges; issues of staff training, software and hardware purchasing, technical support and network administration became intra and inter-organizational battlefields. It was clear that the introduction of these powerful tools into the practice had irrevocably affected the system of collective activity at the OLC, demanding new rules and norms and affecting the traditional division of labour. Motivations became confused and contradictory as the collective objective of literacy and numeracy skills development became obscured, and sometimes displaced, by a focus on computer artifacts as objects of learning in themselves. However, in a government teaching inspection carried out early in 1999, the OLC was awarded the highest possible grade, with special mention being made of the Internet-oriented courses as national exemplars of innovative basic skills provision. This official approval, coupled with ongoing increases in funding, confirmed the organizational viability of integrative forms of computer-supported practice and provided a more secure basis for reflection and further innovation. The pace of change at the OLC was accelerated by the appointment of a new Centre manager, with a remit to further expand provision. Over the next three years, staff explored the creative use of Internet and multimedia technologies in project-based courses. Technology skills training was cut back, and

eventually phased out altogether; and there has been a gradual integration of ICT into teaching and learning across the whole of the OLC's provision.

During the 1999-2000 teaching period much of the traditional literacy and numeracy provision was re-branded as "Combined Studies", where experienced ABE tutors collaborated with ICT-trained colleagues in jointly leading learning groups. The aim was to deliver a balanced mix of ICT-related and traditional ABE activities. However, learners in these groups often still carried out ICT activities individually e.g. transcribing earlier handwritten materials using a word-processor, while collaborative work and group discussions took place away from the ICT tools. During this period OLC tutors and managers also began to seek out theoretical and practical guidance from the experience of others. Further efforts were made to support the participatory aspect of developments at the OLC, by involving learners, volunteers and tutors in feedback exercises and group discussions where they were asked to contribute their views on current and future technology-based provision at the Centre. A strong message from learners was that they wished to spend more time involved in creative technology-based activities; staff pointed to their need for more training and support.

Despite positive progress, emerging CSCL practices at the OLC were still fragile at the beginning of the 2000-2001 academic year. Maintenance of the PCs and network continued to be dependent on local staff and volunteers, as technical support staff from the FE College grew increasingly hostile and obstructive over what they saw as unwarranted incursions into their domain of influence. While the rise in problematic ICT-related enrolments lessened as recruitment and screening

procedures were improved, it still continued as a seemingly unavoidable side-effect of expansion. A major innovation during this period was the launching of the first (near) full-time course that attempted to fully exploit the creative potential of new media technologies as a basis for ABE teaching and learning. Strongly influenced by the neo-Piagetian Constructionist ideas embodied in the Boston Computer Clubhouse projects (Resnick, Rusk, & Cooke, 1999), the year-long “Computer Creative” course supported learners in the conception, planning, execution and exhibition of collaborative multimedia projects. Based on input from participants in the integrated courses over the previous two years, the course design was collaboratively developed around a number of central aims and principles, from which the form and structure of teaching and learning activities emerged in a process of ongoing co-realisation (Hartswood et al., 2003) facilitated by tutors. In a technology-rich environment learners collaborated in pair, small group or whole-group activities utilising a mixture of traditional and electronic tools and media to produce a range of diverse physical and virtual artifacts – texts, pictures, video, animations and interactive applications. Peer mentoring was actively encouraged. (See Harris & Shelswell, 2001 for a fuller account).

In the following academic year, 2001-2, aspects of Computer Creative were split off into a number of discrete project-based courses focused respectively on developing basic skills through desktop publishing, Internet technologies, digital video and animation, and computer programming activities. New “Computer Club” introductory ICT/ABE courses were launched, while Combined Studies continued to become more integrated. The overall effect has been the incorporation of CSCL

activities into all aspects of Centre provision as enrolments have continued to increase. In 2002, CSCL provision at the OLC won a national award for innovation in ABE from the Basic Skills Agency. OLC staff have begun to share their experience with other ABE organisations. Many problems and challenges remain, however. It has become clear that frequent and long-term engagement in CSCL is vital for meaningful participation in design and the successful formation of “communities of learning”. Where sufficient time is not made available, learner engagement and outcomes are markedly less positive. There have been a number of cases where mostly older male learners, with strong, fixed ideas of what the course, in their eyes, should be about, have simply dropped out after a few weeks. For them, a participatory CSCL practice did not meet expectations. These cases of breakdown reveal the underlying tensions and contradictions within developing CSCL activity at the OLC, and point to the existence of issues that must be addressed before CSCL practice at the Centre can become truly empowering.

5. DISCUSSION

5.1 Needs, motivation, and negotiation

In ABE, learner motivation is seen as crucial. Motivated learners “take ownership” of their learning programme, relating it to their own needs and actively engaging with tasks, tutors and fellow students. They are much more likely to gain positive outcomes from their course. Much ABE teaching is directed toward supporting learners to (re)discover, develop and sustain a motivated attitude while in the classroom. Techniques include the careful selection of suitable tasks and materials to

support early and continuing success while minimising the possibilities of damaging failure; integration into supportive learning groups; help with fiscal, childcare and counselling needs, etc. ICT use has the potential to contribute to learner motivation, inasmuch as it offers access to a greater diversity of activities and materials, is adaptable to individual needs and abilities, offers immediate feedback, and promotes technical skills that have wider socio-economic value.

However, in practice, learner motivation is more problematic. In order to maintain day-to-day functioning at the OLC, all participants' motivation toward satisfying their varying needs must accord with, or at least not actively undermine, tacitly and explicitly agreed collectively acceptable outcomes that satisfy organizational requirements. While staff objectives are often coincident with those of learners, they are also motivated by contradictory or conflicting needs, e.g. for measurable outcomes in terms of attendance, qualifications, etc. Student-centred approaches to ABE recognise these conflicts, and tutors work to "map" correspondences between activities that are meaningful to the learner and the requirements of accreditation structures. This requires patience and skill, and involves, to some extent, that tutors and managers mask systemic drivers of activity from each other and learners.

In traditional practice, alignments of learners' and staff motivation take place in complex and ongoing negotiations, conducted both through informal interpersonal interaction, and formal structures such as jointly conducted assessments and interviews. A number of boundary artifacts (Star, 1989) play an essential role, including the Individual Learning Programme (ILP), a co-constructed paper

document which is used by tutors and learners to record, under a number of headings, “official” versions of their jointly produced understandings. As CSCL developments at the OLC illustrate, the presence of ICT in the classroom can, and often does, support the development of learner motivation, but may also make the process of negotiating motivational alignments more difficult. Learners using ICT may have little interest in gaining qualifications but be motivated toward a variety of outcomes afforded by the technology, which can only be justified within “official” frameworks with great difficulty, no matter how productive of learner engagement those activities may seem to be. At the OLC, existing boundary artifacts such as the ILP have, to some extent, been adapted to support negotiations around CSCL practice, with varying degrees of success. Attempts have begun to develop potentially analogous digital artifacts, such as online course outlines, portfolios of work, Web logs etc. What is significant is how the need to undertake such work has refocused staff attention on the issues raised when the production and negotiation of learner motivation is seen as a *process* - a process which, prior to the introduction of ICT, had become virtually invisible, a taken-for-granted part of the “way things are (and always have been) done around here”.

5.2 Motivation and control in CSCL

Individual motivation within collective activities can be viewed as depending upon individuals being able to realise their personal needs by participating in the satisfaction of collective needs (Leont'ev, 1978). When individuals feel that by taking part in a collective activity they will achieve improved control and better quality of life they will be motivated to positively contribute to the expansion of that

activity (Engeström, 1987, Holzkamp, 1991). Conversely, when collective activity seems to offer a person little possibility of improved conditions or quality of life, they will focus on coping with the contradictions between their own and collective needs, defensively seeking to avoid any lessening of their sense of control or any reduction in their possibilities for action. How individuals view the possibilities for fulfilling needs within a collective activity is connected to their perception of where control is situated (Roth, 2002); ABE learners, from backgrounds of social disadvantage and with personal histories of problems with schooling, are especially vulnerable to feeling that they have little or no control over the learning situations and environments they find themselves in.

When considering CSCL in ABE, it appears that individual and collective motivation is also affected by the nature of the technologies in use. In using available computer artifacts, people appropriate them to their purposes, developing artifact-mediated practices that are specific to their situations and setting, and that are both made possible and constrained by properties of the artifacts themselves (Törpel, Pipek, & Rittenbruch, 2003). Computer systems and applications embody the both the worldviews of their designers and the history of their use in specific practices (Leont'ev, 1978). They objectify values which may differ from, or conflict with, those of end-users. Such disparities become apparent when ABE learners attempt to come to grips with ICT tools designed by, and for, people with very different cultural and educational backgrounds. Some aspects prove especially difficult for them, often because computer artifact design assumes conceptual knowledge, e.g. of formal hierarchical relationships, which can only result from a

combination of experiential learning and appropriate instruction that many ABE learners, by definition, lack (see Davydov, 1986/1988 and Vygotsky, 1934/1986 on processes of concept formation). When ABE learners use computer artifacts, at times they may come to feel that the locus of control resides externally to themselves, objectified in the hardware or software, and that their only available learning strategy is to defensively adapt their own needs to the demands of the technology. In such situations, the collectively constructed view of appropriate motivation comes to include a willingness to make the adaptation to “what this program does” as a means to the end of ‘getting to do what we really want to do’. The danger in this process is that ‘what we really want to do’ again becomes “what *others* really want us to do”, moving away from the goal of supporting an expansive learning which empowers the subject.

5.3 Participation and co-location as prerequisites for expansive learning

At the OLC, participatory approaches to the design and development of CSCL practice have proved especially effective in producing motivated, expansive learning. Through participation in course design and the co-realisation of CSCL activities learners co-construct frameworks within which they can also satisfy their own needs. Feeling that they are legitimate participants in the process of building their own learning environment helps them develop a sense of ownership and commitment that is not only productive at the personal level, but that also supports the successful negotiation of collectively acceptable objectives. Learners with a stake in the continuing production of collective learning activity willingly collude with staff in necessary actions toward the satisfaction of organizational demands,

e.g. in producing evidence for accreditation. For every aspect of this approach, physical co-location appears to be a necessary condition; the sense of belonging to a community of learning, with a proximal locus of control, is produced and reproduced in inter-personal interactions and shared practice, over time and through a rich variety of means that are not simply reducible to technology-mediated communicative actions. The opportunistic exchange of “episodic knowledge” (Bærentsen, 1996), in the form of narrative accounts of technology use, helps learners and staff make personal sense of the ICT tools they employ in their collective activities. In this sense-making process a shared experiencing over time of the physical attributes of the artifacts and their use settings plays an important role (Bærentsen, in preparation). This has become evident at the OLC, where the degree of development of motivated and expansive learning has been directly related to course session frequency and duration.

5. CONCLUSION

Experience at the OLC confirms that the successful creation of new forms of collaborative learning activity must be based on some common understanding of objectives among the participants. Such understanding can only be developed over time and through practical action, and requires that participants engage in what Bardram has called “co-constructive reflection” (Bardram, 1998). At the OLC, this realisation, gained through the experience of organisational change and crisis, has been turned to educational advantage by involving learners, tutors, managers and volunteers in the participatory design and co-realisation of CSCL provision. In the

collaborative production of learning activities and artifacts it has been possible to negotiate motivational alignments so that, to some extent, CSCL outcomes satisfy both personal and collective needs. Empowering at both the individual and organisational level, this approach has opened up new possibilities for future creative action. Staff have become enthusiastic about, and committed to, CSCL. Learners have become competent and confident with ICT while making significant gains in basic literacy and numeracy skills. The organisation has reaffirmed its direction and won external recognition and approval for its policies.

Nevertheless, there are still many difficulties. Continuing inter and intra organisational conflicts around ICT maintenance and use; contradictions between demands for short-term outcomes and the need for CSCL learners to attend more frequently and over longer periods; the failure of the integrative approach to engage some students; all indicate unresolved tensions between and within past, present and emerging CSCL practice. Learners and staff need to find more effective ways to reflect together upon their roles within the collective system of CSCL activity, investigating and making explicit the developing norms, rules, and division of labour that relate and coordinate their actions. By articulating the conflicts and contradictions that arise when attempting to appropriate ICT tools into educational practice, participants may begin to relate their own life conditions to the wider societal praxis. It is through such co-constructive reflection that a participatory CSCL ABE practice may (re)connect with Freire's notion of *conscientization* as a key to empowerment, where the examination of the concrete, specific material circumstances of one's own life provides a basis for becoming aware of the

economic and sociocultural relations that determine the conditions of possible development within which individual life choices are made (Freire, 1996). Computer-supported activities can play a vital part here: the examination, manipulation and distortion of material and ideal artifacts connected with learners' lives (photographs, estimations of one's own mathematical ability etc.) using multimedia authoring and programming applications is one direction currently under exploration at the OLC. In an area of the UK which has felt more than most the effects of geopolitical and economic change, the Internet must be used much more consciously as a bridge between personal and collective, local and global concerns. Above all, CSCL practice at the OLC must continue to challenge the increasingly widespread view that individual, computer-based distance learning is the way forward in education. Clearly, much work remains to be done.

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