THE PERSONAL INTERFACE: THE VALUE OF THE 'HUMAN FACTOR' IN SUPPORTING TECHNOLOGY-SUPPORTED LEARNING PROGRAMS

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ABSTRACT

The conception and implementation of a model to provide adequate, effective, and efficient support to learners undertaking technology-supported learning programs remains a vexed issue for many learning providers. Learning support refers to frameworks that assist learners to achieve their learning purposes regardless of their age, background, employment, or geography. While information and communication technologies (ICTs) support improved learner access to information, learning resources, equipment, facilities and/or subject expertise, there remains, for many learners, a degree of isolation and frustration. Without careful planning and appropriate strategies, ICTs may facilitate the provision of impersonal, organisational or institutional support rather than personal, individual support which is needed to encourage active, independent learning.

This paper draws on research trends and a decade of experience in supporting technology-based learning services, to present a model of learning support which relies on personalised, human interaction to support technology-supported learning programs. It presents a model that integrates the technological with the human to create open, empathetic and personal support approaches that have proven to be both effective and efficient.

TECHNOLOGY-SUPPORTED LEARNING PRESENTS SIGNIFICANT LEARNER SUPPORT CHALLENGES

At a superficial level, the application of information and communication technologies (ICTs) for learning just keeps getting better – they're bigger, faster and easier to use. They're becoming more accessible in a wide variety of locations – on campuses, in libraries and learning centres, in workplaces, and in homes. Their seductive promise to improve the effectiveness and efficiency of learning is strengthening their appeal to bureaucrats, administrators, policy makers, and teachers. As a consequence of these and other changes, technologies for learning are taking centre stage across all education sectors. At the same time, learners' needs are changing in response to broad economic, social, political, and technological developments. Learners are demanding new learning approaches that reflect the demands of their work and lifestyle, as classroom-based learning becomes less appropriate and less relevant to their needs (Levine & Cureton, 1998). They not only require learning that is adaptable, portable and interactive (Mason, 1995); they also require appropriate and relevant support services. That is, support services that provide a 'scaffold' to help them adapt to the new roles and responsibilities that are being placed on them as they move from dependent, classroom-based learners to independent learners (Oliver & Herrington, 1995).

Regardless of whether the motivation for the adoption of learning technologies stems from bureaucrats, policy makers, teachers, or the learners themselves, or whether its adoption aims to increase access, decrease inefficiencies, reduce costs, improve services, or empower learners; its current implementation rests on the two key assumptions. Firstly, that learners are sufficiently skilled to access programs and services and, secondly, that learners have the capacity to learn through technology-based learning approaches. This paper contends that for many existing and potential learners, these assumptions are wrong. It draws on recent research (Warner et al., 1998; Oliver et al., 2000) and the extensive experience of the Queensland Open Learning Network (QOLN) which indicates that learners' levels of information and communication technology skills are highly variable. Of particular concern are the findings that indicate (i) many learners possess low skill levels in using learning technologies to complete learning activities and, (ii) that many learners possess low dispositional readiness for technology supported learning. While these findings have implications for all learners regardless of location, those who are at greatest risk are learners in rural, remote, and regional communities. The paper argues that these learners require appropriate learner support environments with effective scaffolding that not only reduce learner frustration and avoid failure, but also encourage active and meaningful learner participation in learning activities and, ultimately, participation in the opportunities presented by a

knowledge-based information society. Finally, the paper reports on a learning support model that integrates the benefits of ICTs for learning with personal, empathetic strategies that foster motivation and build independent learning skills, learner self-esteem, and learner confidence.

WHAT ARE THE SUPPORT NEEDS OF LEARNERS USING TECHNOLOGIES?

The obvious starting points for any examination of the support requirements for learners undertaking technology-supported learning programs are (i) learner access to technology and, (ii) learner skills and experiences with technology. The current emphasis on these considerations is evidenced by national, state, and institutional programs to improve access through the development of sophisticated technological infrastructures. It is also evidenced by increasing institutional activity in the design, development, and implementation of bridging or induction courses to allow students to develop appropriate levels of competence with computers and associated technologies. However, the emphasis on access and the development of technological skills has deflected attention away from the cultural and attitudinal factors that impact of a learner's capacity to learn in a technology-supported learning environment. This paper contends that consideration of learning support requirements for technology-supported programs must include an examination of (1) learner motivation and learner readiness to take more responsibility for his or her own learning and, (2) learner skills for independent learning including organisational and time-management skills, study skills, and research skills.

In this context and in broad terms, learners need personalised, empathetic support that aims to motivate, build self-esteem and confidence, and encourage self-direction and personal empowerment (Kearns et al., 1999). These broad support functions should be underpinned by frameworks that assist learners to assess their current practical skill levels and programs designed to develop specific 'learning to learn' skills including time management skills, information access and retrieval skills, computer literacy and keyboarding, study skills, and research skills (including Internet searching).

THE VALUE OF PERSONAL, EMPATHETIC CONTACT AND INTERACTION IN SUPPORTING TECHOLOGY-SUPPORTED LEARNING PROGRAMS

The potential of learning technologies has been widely recognised for many years but, historically, commentators and researchers have focused on the role of technologies in improving access to learners who are disadvantaged or limited in their access to learning by distance. However, the application of technologies to learning is no longer limited to distance education, and they are now being used in a variety of ways across all sectors of education. These new applications, however, often incorporate design principles such as 'resource-based learning', 'learner-centred learning', 'self-paced learning', and 'self-directed learning'. Technology-supported learning programs which incorporate these approaches are based on assumptions that learners not only want to learn through flexible, technology-based approaches, but also have the skills, experience, and motivation to learn in ways that emphasise learner independence. Current research suggests that learner interest in, and demand for, more flexible, self-paced, technology-based learning may be less than previously perceived. A recent ANTA sponsored study (Warner et al., 1998) reported that 86% of learners preferred face-to-face-modes of delivery. Earlier studies also report the same learner preference for personal, physical contact with teachers and other learners (McInnes et al., 1995). Current research also indicates that the skills required for independent, technology-based learning are less widespread than previously presumed by policy makers, bureaucrats and technology evangelists. The study by Warner et al., (1998) found that 48% of learners rated their level of computer competency as low, or reported that they had limited or no computer experience, and that 63% had no prior experience with the Internet. More importantly for the purposes of this paper, Warner et al., found that over 70% of learners had average or below average levels of readiness for self-directed learning.

Drawing on these research findings and the experience of the Queensland Open Learning Network (QOLN) in delivering and supporting technology-supported learning programs, it is clear that many existing and potential learners need assistance to enhance their capabilities and improve their predilection to undertake self-directed, independent learning. All learners have experience of learning that is teacher directed and 'delivered' in classrooms. Essential elements of this type of directed learning include the highly structured presentation of material to be learned, the

continuous monitoring of learners' attention and, the review of learners' progress and comprehension (Moodie, 1999). This type of learning does not require learners to have advanced learning skills or high levels of motivation or discipline. However, the impetus of many technology-supported learning programs is to transfer much of the responsibility for learning directly to the learner. This presents significant challenges – especially for those learners who are used to learning that is teacher directed. Learner mindsets based on previous experiences with traditional teacher-led learning, inform their expectations of learning and, consequently, limit their capacity to easily adopt new approaches to learning. For these learners, the transition from traditional, teacher-led approaches to independent learning presents many challenges. Learners who need to make this transition require specialist support services to encourage positive learning attitudes and personal responsibility for learning, as well as self-directed learning skills. They need encouragement and motivation to develop the skills of self-directed learning. They need to be helped to develop a commitment to learning and to on-going personal and career development. They also need to be encouraged to develop self-esteem and a positive concept of themselves as capable and autonomous learners. Supporting the transition is complex and requires action in many areas, but the provision of personal, empathetic contact and interaction is a crucial component.

TECHNOLOGY AS A PARTNER IN THE PROVISION OF LEARNING SUPPORT

While personal, empathetic contact and interaction is crucial in supporting learners in their transition to autonomy in learning, there is much that technology itself can contribute. Learning technologies include systems that rely on real time interaction and others which can be accessed asynchronously. In supporting the transition from dependent to independent, autonomous learning, learners require access to services that rely on real time (synchronous) communication as well as those that can be accessed at any time (asynchronous communication). The advantages to learners of both forms have been described by Mason (1999) in her current writing project, and are summarised below.

Benefits to learners of synchronous services

- motivation – real time interaction helps to focus group energies and talents, and promotes collaboration, information sharing, and problem solving thereby contributing to the motivation of learners.

- telepresence – synchronous communication and interaction helps develop group cohesion and contributes to the sense of the learner being part of a broader learning community.

- meaningful feedback – synchronous systems allow learners to test ideas, discuss concepts, and debate issues. It supports group problem solving and decision making.

- pacing – Synchronous events encourage learners to keep up-to-date with their courses.

Benefits to learners of asynchronous services

- Flexibility – access to learning materials can take place at any time from many locations.

- Time to reflect – asynchronous learning allows learners the opportunity to reflect on ideas and discussion, refer to resources, and check back to previous messages before responding to queries or participating in discussions.

- Situated learning – asynchronous technologies can allow access to information from home or work thus enabling the learner to integrate learning concepts with the working environment. The learner can also access resources as required on-the-job.

These benefits and the services associated with them complement the support needs outlined in the preceding sections. That is, while learning technologies make programs and services accessible to a wider range of learners, their potential for supporting learning is also significant and is sometimes overlooked. They have the potential, when used effectively, to empower individuals and contribute to their development as independent learners. Technologies have the potential to give learners a 'voice' with which they can (a) seek support and assistance from experts, teachers or fellow learners, (b) learn collaboratively with other learners regardless of their location, (c) exercise choice and control over the scope and nature of learning products and services, and (d) communicate their requirements and needs to those responsible for designing, delivering, and supporting learning.

A FRAMEWORK FOR LEARNING SUPPORT

Within the context of examining the support requirements for technology-supported learning programs, this paper has so far examined (i) the current support needs of learners for personal, empathetic support and (ii) the potential role of technologies in contributing to the achievement of leaner support. Each has a role to play in supporting learners moving towards autonomy in learning.

If learning support for technology-supported learning programs includes a focus on learner motivation, building self-esteem and confidence, and, encouraging self-direction and personal empowerment; the longer term outcomes for learners are significantly enhanced. That is, to meet the possibilities of the future, learners need to be lifelong learners, involved in an ongoing process of discovery and self-discovery. If learners are to participate effectively in the socio-economic milieu that will characterise the 21st century, they will need to be 'able, motivated and actively encouraged to learn throughout life' (OECD, 1996, p 15). They will need more than skills and competencies relevant to today's context; they will need broadly based and transferable skills that allow them to adapt positively to constantly changing requirements.

There is a need to develop a framework for learning support that is based on a two-pronged approach that recognises

1. the key role of learning technologies in encouraging participation and empowering individuals to take a more active and meaningful role in the learning process and,

2. personal, empathetic, face-to-face contact has a continuing strong role in motivating learners and facilitating the development of self-esteem and self-confidence – traits which have the potential to transform the lives of individual learners and allow them to actively participate in the economic and cultural milieu of the 21st century.

Such a framework would be built on the following principles.

- Learning is a lifelong process that requires continuous support to stimulate and empower individuals to acquire knowledge, values and skills.
- Learning support depends on the particular needs of each individual learner.

- Learning support focuses on a range of key areas:
  - learning-to-learn skills,
  - personal mastery (motivation, self-esteem, confidence as a learner, capacity to deal with change),
  - interpersonal effectiveness (learning in teams, group problem solving skills),
  - information literacy.
- Learning technologies should be used, when appropriate, to support personalised learning support by encouraging participation and facilitating learner control of their learning processes and outcomes.

LEARNING SUPPORT IN ACTION – THE QUEENSLAND OPEN LEARNING NETWORK'S MODEL

The Queensland Open Learning Network (QOLN) uses a model of learning support based on the principles outlined above. QOLN was established in 1989 as an initiative of the Queensland State Government to improve access to learning programs and services for those communities whose access to learning was restricted. The key focus of the Network is to foster lifelong learning and encourage access and participation in education and training by those people who are 'isolated' by any one of a number of factors. The Network now has over forty Open Learning Centres. Each centre fulfils a wide range of roles and functions to support and encourage learning including:

- the provision of learning support mechanisms and associated services for individuals,
- the provision of an information source of education and training opportunities,
- access to technologies which allow individuals to access (i) state-of-the-art stand-alone technology resources and (ii) interactive telecommunications technologies,
- a reception point for the delivery of technology-based learning programs and,
- a communications centre allowing individuals to link to programs, resources and people as required.

Each centre has been established with the aim of making it a local focal point for learning. Centre co-ordinators are employed from the local community and are required to encourage local involvement and build local support to broaden the impact of each centre within the community. The centres are co-ordinated and managed centrally,

providing a management infrastructure which is of equal importance to the successful operation of the network as its physical network of centres, its human network of co-ordinators, and its technological infrastructure.

The increased use of ICTs for learning, coupled with the changing needs of learners, has led to changed expectations of learners using Open Learning Centres. Not only do they expect to have access to latest facilities, they also expect individualised support to use them effectively for their studies. Learner expectations include:

- immediate access to learning materials and resources to use ICTs,

- individualised and contextualised support at the time they need it,

- individualised tuition on using ICT features or when problems are encountered

- immediate access to, or ability to load, software and

- access to services and facilities 24 hours per day, seven days per week.

In response to these needs, QOLN has built upon its existing infrastructure to implement a model of learning support that combines contemporary learning technologies with personalised, local, face-to-face support. This approach is outlined in Figure 2.

The approach blends personal, face-to-face support with the benefits of learning technologies. It recognises that close, personal support is necessary for learners who are in the early stages of developing independent learning skills. It relies on its human network of co-ordinators to provide face-to-face support and motivation to learners. It also recognises that ICTs have a key role in facilitating independent learning and emphasises those features which encourage participation and an ongoing commitment to learning. The main challenge the QOLN faces to fully implement the model, is the need for additional resources to provide adequate local coordinator coverage and to develop additional support materials and systems targeted to specific learner problems. In addition, there is a requirement that providers recognise the readiness issues facing learners, and design learning programs that address these and best take advantage of the support frameworks offered through Open Learning Centres.
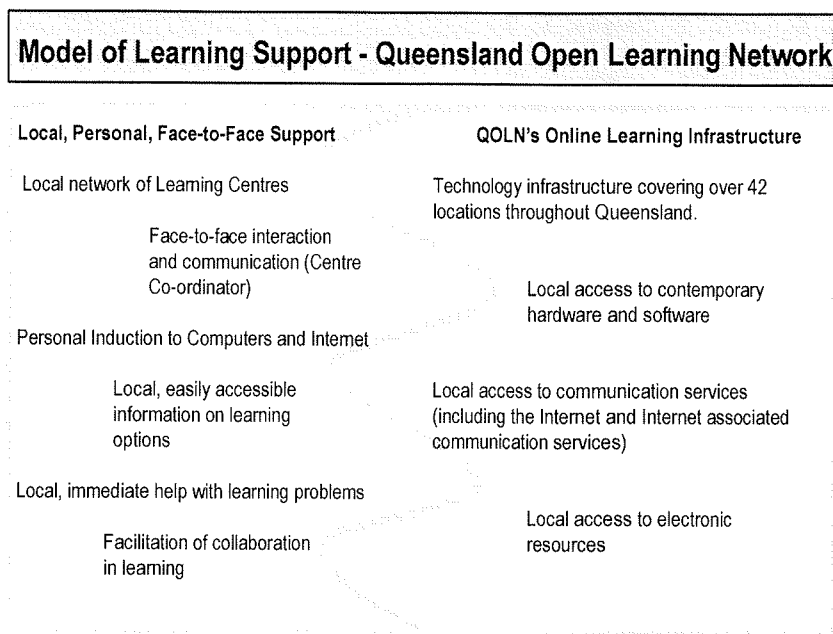

Model of Learning Support - Queensland Open Learning Network

Local, Personal, Face-to-Face Support	QOLN's Online Learning Infrastructure
Local network of Learning Centres	Technology infrastructure covering over 42 locations throughout Queensland.
Face-to-face interaction and communication (Centre Co-ordinator)	
	Local access to contemporary hardware and software
Personal Induction to Computers and Internet	
Local, easily accessible information on learning options	Local access to communication services (including the Internet and Internet associated communication services)
Local, immediate help with learning problems	
	Local access to electronic resources
Facilitation of collaboration in learning	

Figure 1.   Learning support approaches of the Queensland Open
            Learning Network (QOLN).

CONCLUSION

Learning is a continuous process that motivates and empowers individuals – it assists them to acquire new knowledge, skills, and understandings that can be applied confidently in new circumstances and environments.

QOLN's support services aim to provide individual learners with the confidence and ability to pursue pathways to the achievement of personal goals, whether those goals are economic, educational, social or civic.

Learner readiness to use ICTs for learning is highly variable and has been a false assumption for many providers. The failure to consider and accommodate learner readiness has negative implications for perceptions of such learning as well as for participation, retention, and attrition.

The model offered by the Queensland Open Learning Network offers a powerful strategy for providing appropriate frameworks for supporting learners using ICTs. However, to be fully effective, their features must be considered by providers to ensure they complement their delivery strategy and are built into the design of learning materials.

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