Online learning: strategic considerations for university management

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Abstract

This article surveys the challenges facing higher education institutions and points out the need for a different view on learning, and how online learning could be a solution to achieving the new learning experience. Should the online learning delivery mode be accepted, it would present higher education institutions with major philosophical, structural and financial challenges. It is argued that these need to be strategically addressed in order to expect some form of success. To illustrate important strategic considerations, the context of the University of South Africa is used as an example.

introduction

Higher education institutions find themselves under increasing pressure to implement online technologies to facilitate learning - due to, amongst other factors, financial considerations, the information society, business needs and the need to be accountable to society. The danger is that the urgency in this scenario may force institutions to implement change without doing strategic planning and making choices for their particular context, and that they may end up facing disastrous consequences.

The need for some form of appropriate strategic planning for the implementation of online learning technology is therefore considered essential. With the University of South Africa as a context, aspects of appropriate planning and the necessary choices are discussed in order to assist higher education institutions undergoing similar pressures and challenges.

context

With the appointment of a Director of External Studies in 1946, the University of South Africa started developing into one of the world's largest distance-education institutions teaching mainly through correspondence. In 1998 Unisa had 117 046 registered students. The institution offers 2600 different courses and modules through 63 teaching departments and learners can take examinations at 475 centres worldwide (BMI 1998).

Unisa has a well-oiled production system in place which is well staffed: the number of administrative and technical support staff is 2063, compared with 1244 teaching and research staff (BMI 1998). From the authors, teaching material goes to an editorial department, then to a print production department, from where it is dispatched to learners. This system is in accordance with a Fordist bureaucratic production system (Campion 1995; Farnes 1993; Raggat 1993; Renner 1995), aiming at the perfect package for as many students as possible. This production system is supported by a strong technology infrastructure and systems and support for the administration of the university. This infrastructure became a necessity when the university had to adapt to exploding student numbers from the mid-1970s to the mid-1980s.

Traditionally, course design and development was done solely by academics in their respective departments. This was a situation that contributed, to a certain extent, to inferior design of materials and a lack of interaction with, and support to (and between) learners. From 1994 the team approach was adopted - instructional designers, members of academic departments, editors, layout specialists and production staff were grouped in design teams. This innovation led to remarkable improvements in the quality of materials and study packages.

Contact is optional and students are not necessarily assigned to a tutor who is constantly available for discussion and support - lecturing staff are not used to frequent contact with students, as is possible with online communication, for example.

The institution currently has no substantive policy in place on the instructional use of online technology for teaching and learning purposes, but good initiatives with some interesting results frequently emerge, with the help of two central services departments: the Bureau for University Teaching and Computer Services. There is also no long-term plan concerning technical and human resources to facilitate the design and delivery of online learning, although there is general consensus that such an option must receive serious consideration.

Very recently the institution managed itself out of a considerable debt, and budgets are limited. There was a small increase in student fees for 2000 (well below the inflation rate) in order to provide access to more potential students.

strategic considerations

The institution is in dire need of a coordinated effort towards online learning, and the available human, technical and subject expertise will have to be organised according to a proper vision for the best results. It will have to do constant strategic planning to ensure its short-term survival and achieve long-term goals.

the importance of the strategic planning exercise

The myriad internal and external forces that influence the operations of our colleges and universities appear to take on a life of their own (Finnigan 1997:479). Regarding the products the university will offer and its audience or market, there will have to be a clear vision, and a plan to support that vision. Bates (2000:7) lists characteristics of new post-secondary education: it forms part of the information society; multimedia (online technology) will be central; lifelong learning is to be served; a flexible and open curriculum is to be supported; the learner will have to be the focus; institutions will have to negotiate partnerships to protect their interests; and global networking will be the order of day - for students, teachers and administrators. The new knowledge worker will need more training and education on a constant basis where he or she is on location. Knowledge workers will have to have good communication skills, independent learning capability, social skills, teamwork skills, the ability to adapt to changing circumstances, thinking skills and, last but not least, will have to be able to do successful knowledge navigation (Bates 2000:11) Institutions attempting to address these goals will have to do much more with less funding, and as listed above, will have to address the changing learning needs of the information society, giving full consideration to the use of new technology.

The university will have to become a learning organisation as it transforms while it scans, evaluates and uses information, state Rowley et al (1998:23): "The new age with its rapid generation of ideas, information, and processes requires an intelligent flexibility not found in standard organizations". In a world of rapidly changing technology, easy access to information from a global perspective will be paramount. Higher education institutions will form part of a flatter horizontal knowledge structure and may be measured according to their connectivity to multiple sources of knowledge - the distributed knowledge production system (Giddens 1998:ii). This connectivity can be enhanced by the use of current and emerging electronic (digital) communication in the form of multimedia learning networks, integrating redesigned current media with communication opportunities to facilitate interaction and collaboration on the Internet and the WWW - it becomes a learning context with endless sources. If Unisa has always relied on the printed word for research and learning, it will have to take on a mixed commitment - it will have to provide access to and employ modern information communication technologies (and the benefits of these will have to be filtered through to the print-based learner in some form or another).

The above scenario is indeed a tall order and it is unthinkable that organisations can still be under the impression that they can remain cast in stone, without envisioning any form of change and planning for such change. What is even more unsettling is that planning should become a continuous or cyclical process (Kaufman & Herman 1997:51; Kowalski 1988:105; Moran 1998:41), rather than an event that gets shelved soon after the novelty wears off. A strategic plan will ensure that both the long-term and short-term needs are identified, prioritised and addressed, providing a clear view of the present and future as well as the road in between. In the scope of this discussion, on using online technology in a context where communication technologies as part of teaching have never received priority, it is important that technology and pedagogy be integrated in the technology plan (Moran 1998:38).

taking the road...

There should be no doubt that without an informed decision to take a specific road, the institution may end up taking any road at all, like Alice in Through the looking glass - or ultimately take any popular road as long as it can show change, whether for the better or not. Unisa will have to develop a shared vision of its responsibilities to society, to the globe, and to its internal organisation, and the execution of such a vision will be guided by strategic planning. Such strategic planning should aim to adapt the philosophical underpinnings of core activities and the infrastructure (support structures, management structures, remuneration policies, etc.), revisit investment in online teaching and learning (looking for a balance) and provide funding. The final process should look towards implementation and evaluation - the planning process is a cyclical, never-ending phenomenon (see the diagram in Appendix)

towards a vision

For Fritz (1989:138) vision is important: "vision has power, for through vision you can easily reach beyond the ordinary to the extraordinary. Vision can help you organize your actions, focus your values, and clearly see what is relevant in current reality." (Fritz 1989:138) Underlying all this is the question: What do we want?

Kaufman and Herman (1997:47) suggest a three-tiered strategic planning model for such drastic change in the educational environment. On the mega level the vision should be about the responsibility of the institution to improve the quality of life of our learners in society. There is no doubt that Unisa does have the responsibility of improving the quality of life of the majority of society's citizens, be it by providing affordable quality learning opportunity or by community service. The second and macro level involves this quality learning opportunity: there should be concern about the quality the institution delivers to its learners. Lastly, the effort to upgrade the way in which the business of education gets done internally represents the micro level, for example many of the structural changes and procedures recommended in the following paragraphs.

The macro level, however, has to receive serious attention. Unisa has to some extent become guilty of neglecting the learner (through poor communication and support in course design and delivery). One way to improve this aspect is by integrating Internet communication technologies into courses and by exploiting the WWW as an information source. What should be aimed at is online learning communities: learners communicating with other learners, lecturers, experts and sources of information via Internet communication technologies and the Web, and in the process constructing knowledge, provided there is an open and flexible curriculum. The hierarchical structure will change, in that the lecturer/instructor communicates with learners in a flat horizontal structure, while knowledge construction is facilitated. The benefits offered by a facilitator, multiple sources of information and communication and teamwork should also be extended to print-based delivery, by designing the relevant activities and opportunities into content - rather than sitting in a room doing "independent" study, the student could communicate and cooperate with experts and sources in his or her environment in order to reap similar benefits.

The university has already been able to reach almost every potential higher education candidate by correspondence teaching - it was able to disconnect time and place from the

opportunity. Despite very slow postal systems, Unisa could now reach those who have Internet access across the country and throughout the world through high-speed online delivery and add quality to the learning experience - which, as described above, could also improve the quality of the learning experience for print-based learners.

If ever the phrase "a university without borders" was applicable to correspondence learning, it is now. It could become even more of a reality with speedy delivery through online learning opportunities.

A vision for Unisa, one still to be tested, could be:

To improve the quality of life of South African society (or society worldwide) by facilitating the formation of well-rounded citizens. This is to be accomplished by providing quality, affordable learning experiences with the use of appropriate and efficient technologies by a competent and properly organised staff component and technology infrastructure.

Such a vision includes the three levels suggested by Kaufman and Herman (1997:47) for planning and has serious implications for Unisa's institutional philosophy, its culture, its organisational structure and technological infrastructure.

different philosophical perspectives

Kaufman and Herman (1997:49) state: "The success of the entire strategic planning process might hinge on the planning partner's ability to consider new paradigms and frames of reference (including philosophies and/or basic beliefs about people, prejudice, education, health and what education should accomplish", while Kowalski (1988:101-105) calls for a review of the organisational philosophy.

If society's new learning requirements are to be accommodated, then it is obvious that higher education institutions can no longer claim knowledge generation for themselves alone. Learners, especially today's adult knowledge society workers, bring experience and knowledge to the learning experience, and this will imply a subjective and constructive outlook on knowledge construction. A course cannot contain everything and the transmission approach is outdated. Teaching perspectives have to change - of what relevance is the ability to regurgitate 50 facts in a row? Is the person who possesses the skill to play the piano a properly rounded human being? Is Unisa turning out citizens for society or parrots that recite and zombies with skill?

Pratt (1997:39) suggests five teaching perspectives which can be applied in combination. Regarding the transmission approach, it is assumed that learners will be provided with some stimulating content to facilitate their arrival in a field from which they will advance using different principles and structures they create for themselves as their journey progresses. Learners will be establishing themselves in a community of practitioners and will have to assimilate some rhetoric and traditions of this context - in some sense they will be the apprentices in the community and will have to establish their own way of being. As many working adult learners come in with prior knowledge, they will need to challenge their own "knowledge comfort zones". It will be the responsibility of the tutors/instructors to facilitate a disturbance of thinking patterns, so that learners can reconstruct their own understanding of the field - new ways of thinking will have to be cultivated and cognitive development will be stimulated. In a changing global education context, where market forces and private rights determine what will be offered and how it will be consumed, learners will have to be confident and self-sufficient. These qualities will have to be nurtured within the teaching context. Learners are required to have an impact on society, especially in the South African and African contexts. Great needs exist and the population trusts that whatever their learners are to receive will improve these societies. Teaching becomes political in this perspective (Pratt 1997:51).

Such new philosophies will demand cultural change from an organisation that was for so long able to exist believing that it was doing the right thing, and had the recipe for living happily ever after.

changing the institutional culture

Despite all the political change in the country and the transformation that has taken place at Unisa, it does still to a large extent view its role as delivering the perfect package to as many as possible at an affordable price. Its production and delivery system was engineered towards this end. In the process the student got administrated out of the process, and to compound the problem the institution finds itself in a knowledge society (even though it serves a developing nation) with different learning/knowledge needs and hierarchies.

Old hierarchies and systems preventing flexibility and transparency will no longer be efficient. Structures and systems will have to allow for maximum creativity and innovation. A specific course design which provides the required the learning experience can no longer be rejected because the shelf cannot accommodate a specific paper size! The needs of the learner enjoy priority. Learners deserve all the support possible: having 15 000 students in a course studying a selection of facts for a final examination is not a desirable scenario, but having any number of learners with proper support and communication opportunities for knowledge is. A call or email from a student is not an interruption to the lecturer's work but an opportunity - an opportunity that has to become part and parcel of instructional design and delivery.

David Ross (1991:25-26) identifies four types of organisations related to the level of planning: The No-Planning Organisation (not looking ahead and doing advanced preparation), the Critical Planning Organisation (constantly looking forward and having an organisational value system that recognises the planning ability of individuals as a key asset), the Low-Planning Organisation (seeing planning as an essential evil, done only at minimum level), and the Some Planning Organisation (where planning is done as a forced discipline to meet the needs of limited resource requirements - done by management downwards). Unisa's current scenario lies between the Low Planning and the Some Planning Organisations. It reacted successfully on a huge budget deficit and is currently attempting to improve job evaluation and performance appraisal systems for academics. But is this part of constant planning as a result of a critical view on the organisation and its activities? Is it part of implementing a specific vision about its provision of quality learning opportunity in a new society? The ultimate aim should be to become a Critical Planning Organisation, attempting to encourage creativity and initiative. Planning and change should be ongoing processes. It is not enough to move from one crisis to the next, while everybody relaxes between crises.

Management and staff should be motivated towards becoming enabling assets, or membranes, and not firewalls. In many central services departments and academic departments morale is very low, and cooperation does not come easily. Who would cooperate if he or she sees every effort as an interruption with no effect? With a vision and managerial support, components and staff within the institution need to be motivated (eg. by proper remuneration, training, information sessions, and encouragement to participate) to take part in changes (of structural and human capacity) and play an active role in the institution and society.

internal structures and support services

Institutions (whether direct teaching or correspondence) which have not positioned themselves timeously for the information technology revolution as it affects teaching will have to make considerable changes to their technical infrastructure and support services. Moreover, information technologies are seldom integrated successfully without change to the operating environment and culture: "Institutions that continue to resist these structural changes will not realize significant benefits from the new technologies" (Graves et al 1997:448). A proper strategic IT plan should be aligned with both the institution's strategy and the practical reality of the institution's organisations. A planning process needs to include a thorough assessment of the institution's technology state today, a long-term vision of how

technology will support the institution in the future, and a plan for moving from the current state to the future one (Moran 1998:46).

the technology infrastructure

The appropriateness of the technology infrastructure for supporting online teaching needs to be assessed before any institution can consider presenting courses online.

The infrastructure needed for online communication includes personal computers, mainframes, servers, the physical network (eg. Ethernet cabling, optical fibre, etc.) that connects all pieces of hardware, telecommunications links to outside locations (Internet service providers, regional centres, etc.), and operating software and routers (Bates 2000:76). For online teaching/learning, the software that facilitates communication needs to be added. This includes all necessary Internet communication software, such as discussion forum facilities, chat rooms, email, Web management and administration software, browsers, word processing software, graphics packages, Web editing software and online teaching platforms like WebCT, Lotus LearningSpace, Virtual U, and Virtual Campus. Successful student administration and financial systems are also essential - these systems should be compatible with online learning systems.

If we take into account that the above may need constant upgrading to keep up with technological development and innovation in industry and society, it is indeed a tall order. Unisa has a fairly updated internal network in place, though cabling in some instances leaves a lot to be desired (it is not up to Ethernet 5 as a minimum and in other instances there is optical fibre in place). There is adequate server capacity, and other network related installations are workable. Software for the PC is up to standard and is upgraded freely according to individual users' needs if these can be justified. Communication software is of proper standard (GroupWise, Netscape, Microsoft Internet Explorer, etc.) and teaching platforms like WebCT and Lotus LearningSpace are available for experimentation and piloting. Administration systems are fairly effective and currently accommodate data of 120 000 students.

Unisa could, with some adaptation, fairly easily start producing courseware for online delivery if the appropriate support were provided. This does not mean that, should there be a substantial increase in online delivery, the equipment would not have to be upgraded in the near future. Such upgrading and spending should, however, be in accordance with the institution's vision and teaching commitments for the online environment. Says Conway (1998:216):

> The driving force in any classroom - whether virtual or concrete - is the human activity and interaction that constitute the learning experience. If we design our classrooms and learning environments around those experiences, we will be using technology appropriately to create state-of-the-art learning.

ensuring support for access and use of technology

An institution may have the most up-to-date equipment in place at any given time, but if such equipment and its users cannot be supported, then any venture is heading for a failure. Bates (2000:77-78) lists four categories of support that should be adequate: technology infrastructure support, educational technology support staff, instructional design staff and subject experts.

• Technology infrastructure support

Of late the institution has been plagued by network failures and other software compatibility problems (in some instances these were due to upgrading). These can be directly attributed

to the university's not being able to afford properly trained and experienced staff, as it is in competition with private sector for such staff. Contracting experts from outside might be a solution, but this could come with its own set of problems (security, affordability, continuity with system development, etc.). With the implementation of online delivery (be it a phased process or not) comes a tremendous need for technical support (this includes office automation, Internet communication, systems adaptation, etc.). With the current technical support staff needs as they are, numerous problems can be expected. This does not even include the enormous need for training in new software applications used in the various phases of development. This staff component will have to be strengthened (by retraining and re-allocation) and remuneration determined according to market-related standards - provided market-related service can be delivered.

• Educational technology staff

This category may include services of a creative director, and a video and audio specialist if video or sound materials are integrated (Welsh 1998:57). Interface designers, graphic designers and HTML encoding staff will be needed (Bates 2000:77). Internet communications and Web delivery specialists will be needed for publishing and teaching and learning support. These specialists support the creation and application of materials and programs using technology ; it is important to keep in mind that some of these experts are needed only when materials are designed and developed, and others at a later phase when the materials are uploaded and teaching is in progress. Technical support staff are essential to the facilitation of the learning process.

Unisa has made adequate provision for graphic designers in its Press department (for its predominantly print-based development system). Video and sound specialists are available but they are not experienced in Web application; there are a number of HTML experts and Web design specialists (in the Bureau for University Teaching, Computer Services and Unisa Press), but few have experience of constructing or developing materials for online delivery. This category of staff will have to be provided with relevant and sufficient training in supporting the online learning environment, and assistance in the form of graduate students should be considered to aid with work of a repetitive nature (HTML coding and maintenance). Some staff will have to be trained (or additional members appointed) to provide continuous online or telephonic support to learners and tutors who experience technical problems.

• Instructional design and learning development staff

This group of support staff is responsible for education services and provides assistance in the categories of online course design (curriculum, content, support, etc.), course delivery, evaluation and preparing and training of tutors/instructors to do online moderation and support. They should also see to it that tutors and learners have ample opportunity to get acquainted with the hardware and software environments which constitute the learning and tutoring experience.

Not enough support staff for these needs are available. With only two permanent staff members attending to all of these services in the Bureau for University Teaching, online learning development will remain very small or be of a very poor quality. The institution will have to reallocate and retrain staff for this purpose, or even create a number of posts.

• Subject experts and tutors

These resources are needed to provide course content, and to tutor and to support learners in the online environment. There are, broadly speaking, enough staff available to deliver print courses, but as full online courses require more human resource input, problems can be expected. Very few subject experts are good tutors, particularly in the online environment. Others are more used to the print-based delivery and still have that responsibility to fulfil. More tutors with proper computer and Internet access, who need not necessarily be experts and could reside anywhere in the country, would be needed should the online teaching

initiative develop strongly. Current innovative, creative and motivated staff should be trained in the field (Graves et al 1997:438), which would facilitate the transition to the use of technology for teaching. The training should be done according to the Collège Boréal model (Bates 2000:29). This training plan selects competent academics in this learning environment, trains them thoroughly as "technology coaches" and then uses them to further assist, train and motivate their colleagues in faculties. Central support staff do not currently have the capacity to assist in training and developing online tutors at the expected rate.

This highlights a very contentious issue in those institutions in the US and Canada which have decided to present courses online - the changing nature of academic work. Noble (1997; 1998a; 1998b; 1999), Finnigan (1997), Coaldrake & Steadman (1999) and Rowley et al (1998) list a number of concerns which academics see as threats: technology will take away the jobs of academics; business will take over higher education; teaching will become as important an academic activity as research ; subject experts will lose the rights to their intellectual property; cheap, unqualified temporary labour will be used; and overburdened academics will have to cope with more work and heavier student loads.

Overall there will be a battle between autonomy (the academic's right to independence in research and teaching) and accountability (as the information society will put increasing pressure on academics to facilitate relevant knowledge and skills to learners). In the case of Unisa, increasing workload may be an issue, but copyright of materials rests with the institution already. Good teaching online (and in print) will have to be rewarded and the skills of temporary tutoring staff will have to be adequate. Job evaluation and performance appraisal systems for research and teaching will have to be adapted to contribute to just remuneration packages. Regarding accountability, society might well soon demand knowledge and skills which will ensure jobs for learners: the principles of OBE (Outcomes Based Education) and the directions and requirements of SAQA (South African Qualifications Association) address this issue to some extent. The university's negotiations and contracts with technology multi-nationals would have to be carefully monitored in order to properly determine business's role in online learning - although initially it would be about providing much-needed technology, later the teaching system could be highjacked and find itself applied in a private online university (Gutstein 1999), with content being bought from the institution which has lost its market (Can IBM really go to school in South Africa?).

appropriate organisational structures

The computer technology support structure at large academic institutions is often designed with efficient administration and office automation systems in mind. Although these are important and necessary, the structures which support them may not be adequate or equipped to support online course development and delivery.

Bates (2000:181) suggests three options for structuring support units in an organisation to facilitate the delivery of online learning: centralised support, decentralised support and a lightly coordinated decentralised model.

Currently the support services listed in the above sections are distributed across the university with no vision of supporting online needs. The central departments of Computer Services, the Bureau for University Teaching, Unisa Press, and some academic departments which took their own initiatives, like Computer Science and Economics (a course is delivered by Brigham Young University in the USA), all have some form of expertise available that could successfully support the online development envisaged. The results are not necessarily encouraging: there are numerous efforts on the WWW with varying levels of support and other forms of Internet communication, but none can claim full online delivery. In general the quality of materials is poor and there is little understanding of the media and technologies involved. Some academics insist on uploading course materials while they themselves are not experienced Internet users or WWW researchers.

The centralised support structure could be a short-term solution. The university should coordinate all expertise and reallocate motivated and experienced staff members to a central

support unit, from where planning and support could be provided. This should accompany the establishment of proper policies and procedures for online delivery. Pilot projects should be initiated with the team approach, and after successful delivery motivated and knowledgeable academics should be trained with the aim of coaching their colleagues in successful online delivery and development. The central support unit should not be so large a body that it becomes a massive animal which will become redundant after successful implementation of the coach model. Technology coaches in faculties, and other colleagues, will still receive all possible support from the central unit, and incentives and rewards for their participation and contribution will be of the essence (eg. an additional monthly technology coach allowance could be paid to coaches who are part of a formal system and fulfil policy requirements and goals). The central unit's future task should also be to do research on learning in general, online learning and the use of technology, and to train tutors and course developers in this regard.

By implementing such measures the university should move from a decentralised (almost unproductive) support setup to a centralised unit and then back to decentralised technology development support (the coaches) with proper procedures for the team approach and training of coaches in place (similar to Bates's Lightly Coordinated Decentralized Model). With the current workload of instructors being as heavy as it is, it cannot be expected that they will easily buy into this initiative. There will have to be strong reward systems to ensure academic participation, for example by re-dividing the workload in departments, encouraging online teaching research (in specific fields), and improving funding and general remuneration packages.

In general the institution's central support units should be streamlined and adapted to communicate properly through systems (mainframe systems and CMC) to facilitate fast and efficient delivery of online materials, communication and support. The current Fordist industrialist model of print-based production may to some extent be a barrier against innovative online course design. Strong top-management representation of the online initiative is of the essence - the recently appointed Chief Executive Director of Information Communication Technology is a strong example of the quality of human resources, with an interest in learning about learning and a commitment to gaining knowledge about CMC developments, that is needed.

localising technologies

There is serious concern about the use of online technologies full of American (and Western) terms, symbols and content. Although this is really an issue of curriculum and instructional design an, it is a major separate political issue, especially in this country with its rainbow of cultures. It should be the aim of content experts and designers to use local references and content as far as possible, because Americanisms are rife in search engines on the Web and in online information sources. A critical-dialectical stance is to be taken: while the benefits of the Internet and WWW are accepted, it is necessary to react to this technology with a political awareness and guard against South Africans being stripped of its own cultural identity through online learning experiences.

It would be relevant to quote Smith in Wilson et al (1998:112),referring to Al Gore's speech to the International Telecommunications Union on the Internet: '…Gore performed a universal 'search and replace' by substituting 'global' for 'national' and 'world' for 'United States'". This encapsulates the position of Wilson et al on 'digital' or 'virtual' cultural imperialism by the US and its corporations. Our local history, originality and humanity should not be blindly submitted to the "sovereignty of a technological thought-world" (Postman 1992:183). There should therefore be an effort to include local online sources and content in course materials.

external access: ensuring maximum student access

There is serious concern about the 'digital divide' between the haves and have-nots in the world of technology application. Whether to invest money in systems that the majority of our students cannot use is an ethical issue as well as a political one. It is still a major

responsibility of the institution to provide affordable quality higher education (in the form of distance education) to everybody, from the city "haves" to the rural "have-nots". Exploring online delivery will open up opportunities for the student markets abroad, as well as for those who can afford to stay online in a country where local call rates can be a barrier towards education - support and learning online can become expensive.

Possibilities of computer loan schemes (Sonoma State University 1998), technology fees for those who can afford them, on-campus computer laboratories and facilities, privately owned cyber-cafes, private and corporate donations and sponsorships, and partnerships with other educational institutions like schools, technikons and technical colleges, could assure access for a great number of our students. Sharing of regional offices and facilities by institutions could also ensure better access for all involved. The role of government (Bates 2000:92) in establishing affordable online technology with as wide an access as possible should not be overlooked. Tax rebates and negotiations on a national level could make a significant contribution.

In Unisa's case, for the immediate future (depending on the development of access in this country) registration for online courses will depend on the student's having computer facilities and an Internet connection. Online learning (as defined earlier) can be an exciting and enriching experience; this experience will have to be compensated for in print delivery. As regards communication, interaction and collaboration, activities in print-based courses should include the same opportunities, even if the students communicate with people, other students or experts in their own environment. In this fashion we will at least localise the print experience as well.

funding

As with any venture of this nature, funding will be a prominent issue. Institutions facing challenge and constraint tend to adopt the budget-without-a-vision plan. A quick vision statement (taken and customised from somewhere else) is attached to the annual IT budget plan in order to make it credible and justified:

> It comes straight from a quick vision to "We need three of these @ $5,00 each, ten of these @ $1,600 each..." These plans look both strategic and practical. However, they are often a collection of transactions without any strategic, integrated morale. (Moran, 1998:42)

The budget plan and funding reallocation will have to be consistent with the strong institutional vision of Unisa. It would, for example, be an unethical and highly politically charged step to blindly reallocate money towards technology for the "haves", or to suddenly charge technology fees. Strategies will have to be devised to allocate funds appropriately.

Assess the balance between investment in technology infrastructure, infrastructure support services and academic applications of technology for teaching

Investment in administrative information technology infrastructure has in most cases preceded the venture towards online communication technologies for teaching (Bates 2000:162). In Unisa's case the institution always had one side at least it could be proud of: a student administrative system that could handle almost everything required by 120 000 students. The infrastructure for these systems was well supported and enjoyed priority. With the advent of online learning there will be to some extent competition for the same funds. As discussed in sections 3.3.2 and 3.3.3, there will be substantial needs regarding educational technology infrastructure and support services. With its vision for online learning in mind (why, how and when), the university will have to reallocate funds and support staff to the suggested central online learning unit (suggested in Section 3.3.3). In future budget allocations will have to reflect a balance between administration and teaching: as a traditional correspondence institution Unisa needed a very strong administration system, but the accent in the central

budget will have to be shifted in some degree towards teaching with online technology to ensure success.

identify and evaluate various strategies for funding technology for online learning

Bates (2000:153) lists six possible strategies - external grants, student technology fees, government grants, reallocation of internal funds, centralising/decentralising funds, a more balanced view on funding, and partnerships and consortia.

Reallocation of internal funds at Unisa should be part of an attempt to have a more balanced view on funding; ad hoc reallocation on an annual basis (following a bright idea by an innovative employee every now and then) promises a very rocky ride, as is often the case if there is no vision and proper planning, and resembles crisis management. In the scenario suggested in Section 3.3.3 there would be a central unit, with some form of decentralisation later on. Reallocation of funding should therefore be initially centralised to facilitate the implementation process, and then some funding should be made available in a decentralised form to assist academics with online learning initiatives (supported by the central unit).

The other side to funding is forms of external income. Student technology fees will only be viable if courses are produced by a centralised cost unit (then autonomy, copyright and so on become important factors for academics again). Initially, funding will have to be secured from central sources, but could be augmented by students paying an additional fee if they selected online courses as part of their degree structure. This is because additional human resources (technology, development and tutoring) would have to be spend on these courses to make them successful, so that compared with correspondence courses they would be more expensive to produce and deliver. Asking students to pay for their own access is a separate issue altogether, discussed in section 3.5.

Partnerships, consortia and strategic alliances between higher education organisations can also take care of funding. Where institutions cooperate, for example by each delivering certain courses online towards a degree, duplication is minimised. Colisa (the Consortium of Open Learning Institutions of South Africa) is an organisation set up between Unisa and other similar institutions of higher learning to facilitate such agreements and to minimise duplication where possible.

Government aid, such as specific subsidies for instituting teaching with technology in higher education, could also help the development of online delivery. Central and provincial governments could also fulfil an important role in negotiating and setting up facilities that could be shared by students at any level of education. Central government is currently committed to an effort to link all schools to the Internet in the foreseeable future. This is a tall order, but the strategies and the results that may be developed in the process could be of help to Unisa; Internet access anywhere will provide some students with an avenue towards the online learning experience, communication with the rest of the world and the vast information resources on the Web..

the role of business and the private sector

Noble (1997; 1998a; 1998b; 1999), Gutstein (1999), and Postman (1993) warn about the conspiracy of businesses getting involved in higher education in order to "innocently" offer services and software. What with sponsorships, trial runs, "free" software and the proprietary nature of business products, institutions could find themselves in a difficult position. Administrators negotiate course content away from academics towards online teaching ventures and employ proprietary software to deliver courses with the help of cheap tutoring labour. This situation caused academic staff to strike at the University of York in Toronto (Noble 1997). Business may also be only too eager to get involved and gain experience in the higher education teaching field in order to set up its own universities with content from client institutions.

In the case of Unisa, the commitment to correspondence teaching will still be a strong one and it cannot be foreseen that business involvement will eradicate this. Academic staff and support staff will have to carry an extra burden, converting courses to the online environment where it is viable. The strongest national companies in the country with a social conscience are often in a position to donate money or sponsor educational development - no strings attached, as long as the needy population benefits. Software companies may, however, be a different case. As there is strong competition in the market for online teaching, software and extra features which lead to the general superiority of a certain product may involve a choice being directed towards this particular product. Often this is initially not expensive, but once fully implemented it does become expensive, especially in cases where maintenance and administration are part of the contract. The whole teaching process may end up on the servers of such a company, with minor work done by local support staff and tutors fulfilling their function. This would be a highjacking of higher education efforts to go online. The university will have to be careful in its negotiations with software companies, ensuring that its rights are protected, that the teaching/learning process remains its property and that funding does not go towards overly expensive bells and whistles.

implementation and evaluation

Many plans and the hard work of several committees often end up on the shelf while the originator is whisked off to retirement or another position just in time. The importance and success of strategic planning is only measurable on implementation and evaluation, which form part of a holistic planning process (Kaufman & Herman 1997:41). Responsibility will have to be assigned for every aspect and phase of the plan and the success of the venture measured accordingly; the vision (the what-we-want) should never be out of mind in order to drive the process forward.

conclusion

For an institution to decide on online teaching proves to be no simple decision. Strategic planning within the framework of a vision is of the essence; there is no guarantee that any haphazard planning or crisis management will make for a successful venture. In addition the institution cannot undertake strategic planning towards such a goal without preparing itself for substantial organisational change - from the vision and philosophies underlying its core activities to infrastructure, management structures, support structures and operational procedures.

To some extent such a venture can also effect general change in areas that would otherwise have stayed unchanged; with the new demands on higher education, Unisa would in any case not have been able to address its changing audience in the same way as in the past 20 years. Many of its prospective learners would go elsewhere to find the learning experience that would really address their needs, be they school leavers starting out on building a career or working adults wishing to improve their knowledge and skills. The planning for and implementation of online learning will also affect the shortcomings of the traditional correspondence-based or print-based learning; communication and support in one form or another will have to be restored.

It is expected that such a planning process will instil a flexibility and a culture that will see the planning process repeat itself continuously, for only flexible and changing organisations can look forward to surviving in the new knowledge economy (Rowley et al 1998:5).

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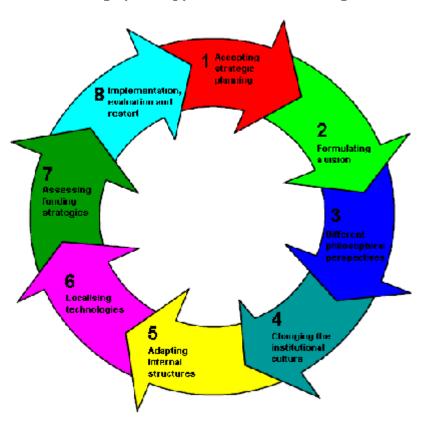
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APPENDIX

Strategic planning process for online learning

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