

# Online Faculty Support and Education Innovation – A Case Study

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*"Presidents may dream visions, and vice presidents may design plans, and deans and department heads may try to implement them, but without the support of faculty members nothing will change."*  
 A. W. (Tony) Bates (2000, p. 95)

## Abstracts

### English Abstract

This article is a summary of a case study of online faculty support that was carried out at the University of Pretoria (South Africa) in 2002. Organisational structures for academic faculty support that facilitates the development and implementation of online distance learning programmes are described. The study is based on interviews with decision makers, academic support staff and faculty members that have been involved in the process of educational innovation. The university's strategies of helping lecturers make the transition to new modes of education are discussed.

### German Abstract

Dieser Aufsatz fasst die Ergebnisse einer Fallstudie aus dem Jahr 2002 über Online Faculty Support an der University of Pretoria (Südafrika) zusammen. Es werden die administrativ-institutionellen Rahmenbedingungen und die Organisation medienbezogener Supportstrukturen für Lehrende als Voraussetzung für die Entwicklung und Implementation von Online Studiengängen beschrieben. Die Studie basiert auf Experteninterviews mit Entscheidungsträgern, Mitarbeitern aus Dienstleistungseinrichtungen und Lehrenden, die am Prozess der Bildungsinnovation beteiligt sind. Vor dem Hintergrund eines konkreten Studiengangs werden Strategien des Supports und mögliche Anreize zur Nutzung neuer Medien in der Lehre abgeleitet.

## Keywords

Faculty support, education innovation, dual-mode university, flexible learning, online distance learning project management

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## 1 Introduction

In any educational context, the quality of teaching and learning depends primarily on the instructional staff who are responsible for facilitating the learning process. Two studies from American accrediting and quality assurance associations have revealed the importance of faculty support in implementing online programs. The Western Co-operative for Educational Telecommunications (WCET, 2001 a; 2001 b), contracted by the Council of Regional Accrediting Commissions (C-RAC) in the USA to identify those elements that are

essential for providing high quality online distance education, highlighted the significance of faculty training. The previous year, the Institute for Higher Education Policy (IHEP) identified faculty support as a critical standard of quality (2000).

What has changed with the introduction of complex technologies and the evolving pedagogical opportunities for online learning and teaching is that faculty themselves require special support in the development of online teaching (Brindley, Zawacki & Roberts, 2003). According to Bates (2000) "faculty members need much more support and encouragement than has been provided to date for their use of technology for teaching and learning. [...] Teaching with technology requires a high skill level, and this necessitates training not just in technical matters but also in educational practice" (p. 3). Advising and supporting faculty in pedagogical and technical questions regarding online learning is therefore essential, because the development and implementation of online courses, or of complete online programmes, is a very complex task, which individual professors or single departments will be unable to manage themselves in a "lone-ranger" approach (ibid.). The lack of support and training for teachers and tutors is a limiting factor in the development of online teaching: "Any significant initiative aimed at changing teaching methods or the introduction of technology into teaching and learning should include effective e-moderator support and training, otherwise its outcomes are likely to be meagre and unsuccessful" (Salmon, 2000, p. 55).

Although the importance of faculty support does not appear to be in question, many institutions are still struggling to provide appropriate and effective training, development, and reward opportunities for faculty.

Based on a case study at the University of Pretoria in South Africa, this article seeks to explore organisational structures that are needed to provide faculty support for online programmes in order to promote education innovation.

## 2 Reasons for selecting the University of Pretoria

The example of the University of Pretoria was selected for a case study because learning and teaching with new media was introduced here with impressive effect and great success. It is very interesting that the University of Pretoria is primarily not a distance teaching university but the largest residential university of South Africa with about 28,000 students on campus (statistics taken in February 2002). Only in 1995 did the university start to offer distance education in traditional format, i.e. with print-based study materials, for teacher training programmes. With over 25,000 additional students at a distance the total number of enrolments could almost be doubled. Contrary to the current general negative trend in South Africa, the University of Pretoria was able to increase the number of students on campus by 10 % in 2001 and 2002. This positive development is attributed to the innovative and flexible delivery of learning opportunities.

In 1997 a competence centre for facilitating the implementation and advancement of "flexible learning" was established: the Department of Telematic Learning and Education Innovation (TLEI). With the support of this unit more than 60 programmes have been transformed into an online mode or newly developed since 1998. Furthermore, over 375 web-based courses and 34 interactive CD-ROMs (multimedia projects) have been created.

Also in the literature the University of Pretoria is highlighted as a best practice example (Naidoo & Schutte, 1999): "The University of Pretoria presents an example of a transformation towards a virtual university and distance education driven by the management of the institution. The project [...] is a model of a transformation that must unfold according to a carefully researched plan. It also illustrates the inordinate amount of effort that goes into the training of the academic, administrative, and management staff. And finally, it illustrates a plan to manage a mindshift on the campus towards a virtual university" (p. 106).

The study was to be carried out using a concrete application as an example. It was decided to investigate the online "Master in Early Childhood Intervention" (MECI) programme. Professor Alant, the responsible programme chair, received the "Chancellor's Award for Education Excellence" for the MECI in 2001.

## 3 Methodology: qualitative expert interviews

In order to explore how the process of education innovation at the University of Pretoria is supported and organised and how faculties co-operate with academic support units for e-learning, semi-structured expert interviews were carried out according to Meuser & Nagel (1991). Interviews with experts can be used as a qualitative method because they describe the view of acting persons "from the inside" (Flick, von Kardorff, Steinke, 2000, p. 14). The experts can provide information on their special field of action that represents the object of study. They are responsible for planning, implementing, operating and assuring the quality of the support for students and lecturers at the University of Pretoria. There is still almost no or very little literature available about faculty support. However, experts have privileged access to information that would not be available otherwise. In consequence, the perspective of the study is directed towards the specific operational knowledge of the experts (cf. Meuser & Nagel, 1991, p. 446).

The author of this paper created a guideline as an instrument for structuring the interviews with experts (see Appendix 1). It is an "open" guideline, even if this term may appear paradoxical, because "it is in fact the guide that guarantees the openness of the course of the interview. Through working on the guideline the researcher becomes familiar with the subjects that are to be addressed, and this forms the precondition for a 'relaxed', unbureaucratic steering of the interview" (Meuser & Nagel, 1991, p. 449).

Important sources for working out the rough structure of the guidelines were the studies on the quality assurance of online degree courses by the African accreditation associations (WCET 2001a, 2001b; IHEP 2000). The guideline is also based on studies on institutions in the South African context, especially works by Ngengebule (1998) on the University of South Africa (UNISA) and Nonyongo (1998) on the South African Committee for Higher Education (Sached) Trust. With regard to the degree course that was examined, an evaluation report from the South African Institute for Distance Education (SAIDE) provided initial starting points (Dawjee, du Plessis & Welch, 2001).

Decision makers from top management, directors from academic support units and faculty members were invited for an interview. Within one week in February 2002, eight interviews were conducted:

**Table 1:** Interviews with experts at the University of Pretoria

No.	Expert(s) (positions)	Department, unit/division

1	Project Managers	Department of Telematic Learning and Education Innovation (TLEI), E-Education Division (Project Office)
2	Director, Deputy Director	Bureau for Institutional Research and Planning
3	Director, Project Leader MECI	Centre for Augmentative and Alternative Communication (CAAC)
4	MECI Course Co-ordinator, AAC Specialist	Centre for Augmentative and Alternative Communication (CAAC)
5	Director	Client Service Centre (CSC)
6	Deputy Director, Manager Education Innovation and Consultation, (Snr.) Education Consultants	Department for Telematic Learning & Education Innovation Education Innovation and Consultation Division
7	Deputy Director, Group Head Telehelp, Admin Control Officer	Department for Telematic Learning & Education Innovation Partnerships and Client Services Division
8	Director	TLEI

#### 4 Institutional context

The foundation of the University of Pretoria goes back to the Transvaal University College, which maintained a branch in Pretoria on the present campus of the university. It has been an independent and state-registered university since 1930 and is the largest campus university in South Africa today.

##### 4.1 Introduction of distance learning

The end of apartheid constitutes a dramatic change in the development of the South African educational system. A new era began in 1994, which is characterised to an extreme extent by the enormous accumulated demand of the black population for higher education. This is one of the main reasons for the growing importance of distance education in South Africa, since it provides access to higher education, especially in rural areas. Until 1994 the University of Pretoria was a purely contact education institution.

Early in 1994 the Bureau for Institutional Research and Planning was established. This unit is responsible for controlling and advising top management in strategic matters. Here in 1994 the decision was made to introduce print-based distance education and in 1997 to develop e-learning programmes for all students, on and off campus. New information and communication technologies should be applied for all levels of academic support for students and faculty and administrative-institutional services as well.

Responding to the enormous demand, a print-based programme was started for teacher training in 1995. The course is aimed at teachers in rural areas, who wish to enhance their careers. 98 % of the students were black. Due to the lack of technical infrastructure print-based distance education was the only way to reach the working target group in remote places:

*"Some of the teachers teach their classes under a tree. There is no infrastructure for them, not even a school infrastructure" (Director, Bureau for Institutional Research and Planning).*

Even in the first year 8,921 students registered for the course, the highest number of enrolments was reached in 1999 with 25,195 students (UP, 2001a).

With the dissemination of information and communication technologies it was decided to introduce media-based learning for all students. The process of education innovation was driven by top management with impressive consequences (Naidoo & Schutte, 1999):

*The university has consciously taken a strategic decision to aggressively move towards distance education through modern telecommunication and computing technology. This decision will also change the face-to-face model, since distance education technology will be used to enhance the performance of the university in the contact mode. In fact, it seems that the University of Pretoria is moving inexorably towards the dual-mode model" (p. 107).*

##### 4.2 From single-mode to mixed-mode delivery: flexible learning

The University of Pretoria offers learning with new media for both distance students and on-campus students. Media- or technology-based learning is referred to as "telematic learning", and this also includes print-based distance education. An explicit difference between distance students (off-campus) and on-campus students is not made.

The term "flexible learning" has been established. Telematic and flexible learning are defined as follows:

*Telematic education refers to a comprehensive system of flexible learning. The use of information and communication technology to enhance the learning environment, is emphasised. (Note that paper material is considered as a low level of technology and is thus included in the use of the word 'technology'). Telematic education includes the full spectrum of education modes, from contact education to paper-based and web-based distance education. It also includes supportive modes such as interactive television, video conferencing and interactive multimedia (Brown, 1999, p. 30).*

The tradition of face-to-face teaching is maintained and there is a conviction that contact sessions are indispensable. This especially applies to the postgraduate level. Therefore, no online programmes are offered without mandatory sessions on campus. The goal of introducing online learning is to enrich the learning experience and to make it more flexible in terms of space and time:

*"[...] we look at the e-learning environment as a specific mode of contact in a certain sense, it's only contact over a distance. [...] In essence, it stays contact education but with the ICT you enrich the whole communication between student and lecturer and students among themselves" (Director, Bureau for Institutional Research and Planning).*

Flexible learning can therefore be described as a continuum between contact and distance education. It responds to special needs of students with a mixture of different modes of course delivery (UP, 2001b):

*At one end of the spectrum, and for some learners, conventional contact tuition as the dominant mode of instruction will be maintained, while effective use is made of new information and communications technology to enhance teaching and learning. For other students, particularly mature students not able to be on campus full-time, the notion of lifelong learning compels us to provide a different mode of access to knowledge and opportunities for attaining tertiary qualifications. Mixed delivery systems for some programmes, and distance education for others, will form part of the programme mix, as it rightly should, in the repertoire of a fully comprehensive institution (pp. 5).*

The result of this understanding of flexible learning is that all students on campus and also those in web-based programmes with mandatory contact sessions are counted as "normal" face-to-face students. Only students in correspondence courses are regarded as distance learners.

#### 4.3 The University of Pretoria in numbers

As the largest residential university of South Africa the University of Pretoria awards 8 % of all Bachelor-, 12,4 % of all Master and 16 % of all doctoral degrees in the country. These numbers are taken from the year 1999 and include also the distance teaching Universities UNISA and Vista that are based in Pretoria as well (UP, 2001b).

The following data are based on statistics that were provided by the Bureau for Institutional Research and Planning (UP, 2001a, 2001c, 2001d).

### Organisational structure of the University of Pretoria

The University of Pretoria has nine faculties. The largest faculty with nearly 7,000 students is the Faculty of Economic & Management Sciences; the smallest with about 500 students is the Faculty of Theology. In total there are ten deans, one dean for each faculty and one Dean of Students. Larger faculties consist of several Schools, led by Chairs of Schools. The Schools themselves consist of several Departments (Head of Department). A Programme Manager co-ordinates the curriculum design and ensures the integrity of offered courses and programmes within the faculty. In each faculty an Education Innovation Committee with an Education Innovation Manager was established in order to foster the process of educational change management (s. Chapter 6.1).

The faculties are supported by four academic support units: the Department of Telematic Learning and Education Innovation, the Client Service Centre, the IT-Department and the library. The library is called the Academic Information Service (AIS).

The significance of the support units is bolstered in two ways:

- The Department of Telematic Learning and Education Innovation decides on the award of external funds for promoting e-learning projects. Lecturers must address their applications for funding and services directly to this unit.
- In addition, the directors of the support service units have a seat on the university's managing board. This managing board (*top management*) consists of the Rector, the Vice-Rectors and the Executive Directors. The latter include the directors of the support service units, so that these are represented by one vote in the managing board and in this way can influence structural decisions that affect the whole university.

The structure and the organisation of the University of Pretoria, in particular the relationships and the connections between the faculties and the academic support units, are shown in Fig. 1 (s. Chapter 7). Further details of the budget, enrolments, students and staff are included in Appendix 2.

## 5 The Master in Early Childhood Intervention programme

The study was carried out by exploring a concrete online programme to investigate the relationship between academic departments and academic support units within the University of Pretoria. The Master in Early Childhood Intervention (MECI) was selected as an example of good practice [1].

In order to provide the reader with some background information, the goals and objectives of the MECI are briefly described in this section. Furthermore, it will be considered why online learning is appropriate for this programme and its target group.

The programme was offered for the first time in 2001 by the Centre for Augmentative and Alternative Communication [2] (CAAC) under the direction of Prof. Erna Alant. At this time the centre already had experience of an internet-based Ph.D. programme in "Augmentative and Alternative Communication".

What is important in this specific programme is the multidisciplinary intervention approach. The Masters degree course is aimed at eight professions that, against the background of the special problems in the context of South Africa, are concerned with the health, educational, psychological and social care and support of children (Dawjee, du Plessis & Welch, 2001). The goals and objectives of the programme are summarised by Alant, Dada, Fresen & Marx (2002) as follows:

*The Masters Degree [...] aims at equipping multi-professionals rendering services to infants and young children with specialized knowledge and skills in the field of early childhood intervention to function optimally in a changing and challenging social context, by:*

- Working in teams with professionals and community members to facilitate social development;
- Understanding their own role within the team of early childhood professionals;
- Developing comprehensive strategies for intervention; and
- Critically evaluating the accountability, appropriacy and sustainability of service provision (p. 6).

The pedagogical approach is based on a constructivist view of teaching and learning. Central elements are problem-based learning using authentic case studies and the application of the acquired knowledge in occupational practice. All learning activities take place in multidisciplinary groups, to enable an approach as holistic as possible. Special emphasis is therefore placed on the communication among students and between lecturers and students.

The form of online learning is especially suitable for the programme and its target group for at least three

reasons:

1. The target group consists of experienced students, who have already completed one degree and are therefore able to assess their own learning style and should be in possession of essential competencies for the organisation of their learning process. They are spread throughout the whole country and are in full-time employment in at least one of the eight occupations referred to.
2. The students are regarded as geographically dispersed "isolated professionals". The online mode of learning and teaching with asynchronous computer-mediated communication is the only way to bridge the distance for collaborative learning.
3. The pedagogical concept of the programme envisions a constructivist approach which aims at the application of knowledge and problem solving assignments based on authentic cases. Here it can be build on practical experiences from the work context of the students. The internet-based learning environment enables interdisciplinary collaborative work of geographically spread learning groups.

## 6 Faculty Support

The Department of Telematic Learning and Education Innovation [3] (TLEI) as a competence centre for e-learning plays a prominent role at the University of Pretoria. It was established in November 1997 in order to manage, facilitate and implement the development of flexible learning. This unit is responsible for supporting all kinds of media-based learning and teaching: from print-based distance education, audio and video conferencing, video and multimedia CD-ROM productions to interactive television and entire online programmes.

The first task of TLEI in 1997 was to develop an online support portal for students and faculty. The so-called Virtual Campus was launched in October 1999 (Brown, 1999): "The Virtual Campus makes available online application, registration, payment, record enquiries, studies, interaction with lecturers and fellow students. All services that are available for students on campus shall now be available via the Internet" (p. 30). Today over 20,000 students use the services of the Virtual Campus. The web-based learning management system used is WebCT. Choosing WebCT, was the result of a comparative study between available commercial products based on a comprehensive list of criteria.

The budget of TLEI in 2002 was about ZAR 18,500,000 [4], which is approximately one percent of the overall budget of the university (cf. section 4.3.2).

There are two main divisions within TLEI with about 60 staff members: the Division of Education Innovation & Client Services and the Division of E-Education. Each division is managed by a Deputy Director, positions that were appointed with experts from a South African distance teaching university (Technikon South Africa).

The main function of the Division of Education Innovation & Client Services is process oriented and can be described as change management, whereas the Division of E-Education is concerned with the product oriented management and implementation of media projects.

### 6.1 Education innovation: the Division of Education Innovation & Client Services

The Division of Education Innovation & Client Services consists of two sub-divisions with approx. 20 employees. The Partnerships & Client Services division sets up partnerships with other universities in order to be able to use their study centres to support students in remote parts of the country.

However, the Department's central task is carried out by the Education Innovation and Consultation division. They follow a very interesting bottom-up approach for education innovation.

Eight educational consultants were appointed for the faculties who all have the respective professional background, many years of teaching experience and special pedagogical skills and qualifications. These educational consultants work very closely with the academic departments in order to stimulate innovation and promote new forms of teaching and learning through individual consultations, talks, presentations of examples of good practice, as well as educational training. They advise and support lecturers who have shown themselves to be open to teaching with new media in order to bring about a change in teaching forms and learning behaviour.

The respective roles and functions of the Educational Consultants are defined in an "Instructional Design Toolkit" (UP, 2002):

*Educational Consultants are based in the Education Innovation division of TLEI. Their services include:*

- collaborate on education philosophy and learning models (macro design)
- provide assistance with the development of outcomes based curricula [...]
- guide and support the lecturer in redesigning the content and structure of courses within a flexible learning environment
- advise on teaching and learning strategies
- advise on the design and development of assessment strategies and learning activities
- advise on the design of learning materials that optimise learner interaction and engagement therewith
- advise on techniques to enhance online communication between learners and facilitator and between learners
- provide relevant resources on teaching and learning theories, techniques and strategies (p. 8).

The decisive advantage of the educational consultants is that they have the same professional background as the teaching staff, and this leads to a high level of acceptance in the faculty. The consultants are highly qualified staff; some have even acquired doctorates in the respective subject area. In the end, competence in the subject is a material precondition for developing an imagination for subject didactics: "Media-didactic expertise is 'helpless' without the interface to subject didactics expertise. - Media-didactics can indeed point out the specific possibilities of the media, but without the necessary expert knowledge suitable learning opportunities cannot be developed" (Kerres, 2001, p. 294).

There is no single, ideal formula how Educational Consultants can initiate flexible learning projects. The faculties are too different and even within one faculty there are enormous differences in terms of academic and personal needs that influence the understanding and conception of learning and teaching and therefore demand special strategies, e. g. in the field of engineering sciences:

*"Different individuals also differ in their style of approach to the educational interaction... So all of IT and information science and informatics are included within the package. But within that spectrum it is also interesting to say that via information science you get some ladies working traditionally in a library and you get the mining engineers that stink of the coalface. And it's quite interesting to put two of them next to each other and say, ya we're from the same faculty but that's the beauty of grouping people. The fact that the engineering faculty has a typical preference in terms of information that they deal with... makes for an interesting approach when it comes to the human side of accommodating learner needs etc. And to be a change agent they involve multiple initiatives and strategies" (Educational Consultant, Education Innovation and Consultation Division).*

A major change in teaching behaviour cannot be decreed. Often a careful and observing rather than a too offensive approach is more successful. The manager of the Educational Consultants reports his experiences in the department of architecture:

*"In other departments, one I can think of, for instance, was the architects, I went to say, hi this is me and this is what I can do. Although I am paraphrasing they were saying, ya it's nice to see that you are here and we don't hate you but there is nothing you can tell us that we are interested in. And in fact maybe if you see more of what we do you would realise that architecture won't fit into the type of boxes... And I then went as an observer to see what they do and speak to individuals etc. From there on it had quite a positive roll out but it started on a fairly negative approach but fortunately we could address the issues. So in terms of how do we approach them, just as it comes. But there is no single answer" (Educational Consultant, Education Innovation and Consultation Division).*

The university's managing board has given the faculties the formal commission to think about the introduction of flexible learning. A so-called Education Innovation Committee, run by an Education Innovation Manager, was established for this purpose in each faculty. The task of this committee is to draw up a plan for the development and implementation of media-based learning in the respective faculty. The individual concepts of each faculty are then merged in an integrated plan that aims at education innovation for the whole university. The educational consultants sit on the Education Innovation Committee as well and work closely with the Education Innovation Manager and the Dean to moderate and support the discussion process on the innovation of teaching.

However, this process is difficult, particularly in the larger faculties. For example, the Humanities are consolidated in a giant faculty with 18 departments and over 600 lecturers. Even if only the higher-level decision-makers sit on the committee it is difficult to find a consensus. People are not even in agreement regarding the committee's exact remit.

Although the educational consultants work mainly directly in the faculties, they are not isolated but work together as a team in the TLEI on general questions and strategies for the introduction and dissemination of flexible and online learning.

The strategic goal of the Educational Consultants is to initiate new flexible learning developments. Normally they are not members of the project team (see below). However, they can provide input with regard to the instructional design of learning materials.

## 6.2 Flexible learning project management: E-Education Division

The operative implementation of e-learning projects is carried out by the E-Education Division. Over 30 staff members are working on the development of online courses and multimedia CD-ROMs: project managers, instructional designers, graphic artists, web designers, photographers and programmers. The task of the E-Education Division is therefore product oriented.

Using the Master in Early Childhood Intervention (MECI) programme [5] as an example it can be shown how the faculties work together with academic support units.

During the development of online courses the TLEI works closely with the library and the IT Department. The information specialist of the library takes care of the digitalisation of texts, makes them available on the websites for the online courses, or on CD-ROM, and cares for copyright clearance. The library has its own budget especially for obtaining copyright permissions. The IT Department is responsible for the technical reliability of the servers and the computers in the classrooms and provides advice on questions regarding network technology.

Not every expert in a subject is also a good project manager, so the project management is not a matter for the faculty but for the TLEI. The project office, with three experienced instructional designers who organise the individual projects as project managers, was established for this purpose in the E-Education Division. The project leadership and ownership of projects remain in the academic department with those who are responsible for the programme, courses and contents, but the project office of TLEI supplies the project manager.

The University of Pretoria provides seed funds for flexible learning and new media projects through the TLEI. The annual funds for this are part of the TLEI's budget and amount to one million Rand. Projects are supported with sums between ZAR 10,000 and ZAR 300,000. ZAR 40,000 were made available for the MECI. The money is used for operational costs, e.g. for sending out a video team to capture film material for case studies. The personnel costs (labour), which make up the major part of the TLEI's budget, have not (yet) been allocated to the faculties. Labour costs are subsidised to promote education innovation. Therefore faculties do not "pay" for labour costs in the services TLEI provides.

To obtain the seed funds the project leader from the faculty has to submit a proposal to the TLEI. Faculty members are supported in this by the project office. The following points must be shown in the "Proposal for a new telematic course": the targets and contents of the course, the curriculum, the choice of media, the target group, partners or competing providers, development costs, expected revenues (from government subsidies and tuition fees), a prognosis on the time of cost recovery and a detailed schedule for developing the study modules. The proposal circulates in the faculty and must be signed by the Dean and the Vice-Rector from the university's managing board. The proposal is then submitted to the TLEI. A committee, which consists of the TLEI's management level, decides on the acceptance of the proposal. If the decision is positive, the seed funds flow as the start-up financing for course development. The fact that TLEI decides on the approval and awarding of funds means that the position of this unit is considerably strengthened in the university.

The project manager puts the project team together. The team includes the project leader (faculty), the project manager (TLEI), other faculty members (faculty), an instructional designer (TLEI), an information specialist (library), a graphic artist (TLEI) and other support staff where necessary. An educational consultant can accompany a project to provide advice on pedagogical questions, but is not a member of the

project-oriented team. The project manager coordinates the flow of work and the communication between the teaching staff and the staff from the E-Education Division and from the other support units, e.g. the library. The project management runs through the classical phases of instructional design: analysis (which includes compiling the data for the project proposal), design, development, production/implementation and evaluation/quality assurance. The development phases of the course development process are stipulated exactly in an "Instructional Design Toolkit" that applies throughout the university (cf. UP 2002).

When asked whether she was satisfied with the service provided by TLEI the leader of the MECI commented very positively on TLEI's work. Many stressed the importance of the library service for the implementation of online courses.

### 6.3 Incentives for faculty members

According to Rogers "Innovation Adaptation Curve" (1995) we can certainly refer to the chair of the Master of Early Childhood Intervention as an "innovator" or "early adopter". The pedagogical opportunities of online learning, in particular the asynchronous communication and group work, comply with the goals of the degree course.

The work of the TLEI's educational consultants is certainly very successful but they do not have it easy in all faculties, as, e.g. is reported with regard to natural sciences:

*"My faculty is also very much scientifically oriented. They don't believe that they need to innovate their practice. The manager in the faculty has also decided that she won't participate any longer. She didn't really... It's very important to get to know people and that they get to know you. And you need to do a lot of marketing and... see we talked about having to create a need within the department for change. Some have developed telematic programmes. The one department has developed six postgraduate programmes and the other one has developed three. So things are happening, it's WebCT programmes. [...] it's a question of getting yourself acceptable or invited within the... the fact that my background is acceptable to them makes me acceptable but doesn't make me as an educational consultant acceptable. Physics has one or two people that are interested, so it's a good start there. The most active departments are consumer sciences - food services - and botany... The other fact is that you have to pull in other forces, that you have to activate to bring about change" (Educational Consultant, Education Innovation and Consultation Division).*

What forces could these be? A large share of the success of the TLEI's work is certainly owed to the strategy of starting from the intrinsic motivation of the lecturers. It is pointless to order a change in teaching behaviour from above. Lecturers themselves must be convinced of the opportunities of the new media, so that they integrate them with full commitment in *their* media projects. An important prerequisite for that is that faculty members keep control over their teaching materials as project leaders.

*"It's the whole time a process of change management. Having the correct locus of control, having ownership. If you make things compulsory then you lose the motivation to do something. So you have to do the process in such a way that they take ownership and they feel responsible and they want to do this etc. So it's a very difficult challenge" (Educational Consultant, Education Innovation and Consultation Division).*

A frequently encountered reason for the reserved attitude to media-based teaching is the high workload associated with it. Academic reputations on the road to a professorship are acquired more by publishing research results and attracting external funds than by good teaching. In contrast, 60% to 70% of the working hours of a member of the academic staff are taken up with teaching, without this being adequately appreciated in proportion. The motivation to invest even more work in teaching is at times correspondingly slight. This is being changed slowly.

For years now work has been done to establish a balance between research and teaching in the evaluation of academic staff. Whereas lecturers were still evaluated a few years ago to 80% solely on their research outputs, this proportion has already fallen to approx. 65% today:

*"We still got a route to go. Four years ago promotion was, I wouldn't say solely, but 80 % of your promotion was sort of accessed in terms of your research output, 80 %. I think it's gone down now to say 65 %. But it's not yet 50/50. So I think we still got to do some changes to that. But you can't expect this to happen over night. You need time for this, so I would think in a four or five years time we can make this a 50/50 %. And it's very interesting of course if you take a lecturers time, more or less 60 or 70 %, in some cases 80 %, is devoted to lecturing. And only 20 %, 30 %, 40 % perhaps, that's a very, very sort of fortunate position the lecturer would be in if he can devote 40 % of his time to research." (Director, TLEI).*

A new "Performance Management System" is to be introduced which will include the application of new media as criteria, so that young academics can make a name for themselves through innovative teaching as well.

There are also, however, monetary incentives at the faculty and the individual level. At the faculty level these are the seed funds, the financing for starting new projects or for supporting the transformation of an existing course unit or degree course into an online format. As individual incentive the university sponsors 10 annual "Awards for Excellence in Education" of ZAR 15,000 each, as well as one annual "Chancellor's Award for Education Excellence", which is endowed with ZAR 80,000. The prize-winners can reinvest the money (tax-free), e.g. for further module content developments, further training or attendance at conferences, or they can have it paid to them as private individuals. Professor Alant received the Chancellor Award for the MECI. Apart from these monetary awards, the Department of TLEI biannually awards "Certificates for Education Innovation" to staff members of the university who make exceptional contributions to education innovation, but these are not combined with large financial grants.

## 7 Conclusion: organisational structure of the support system

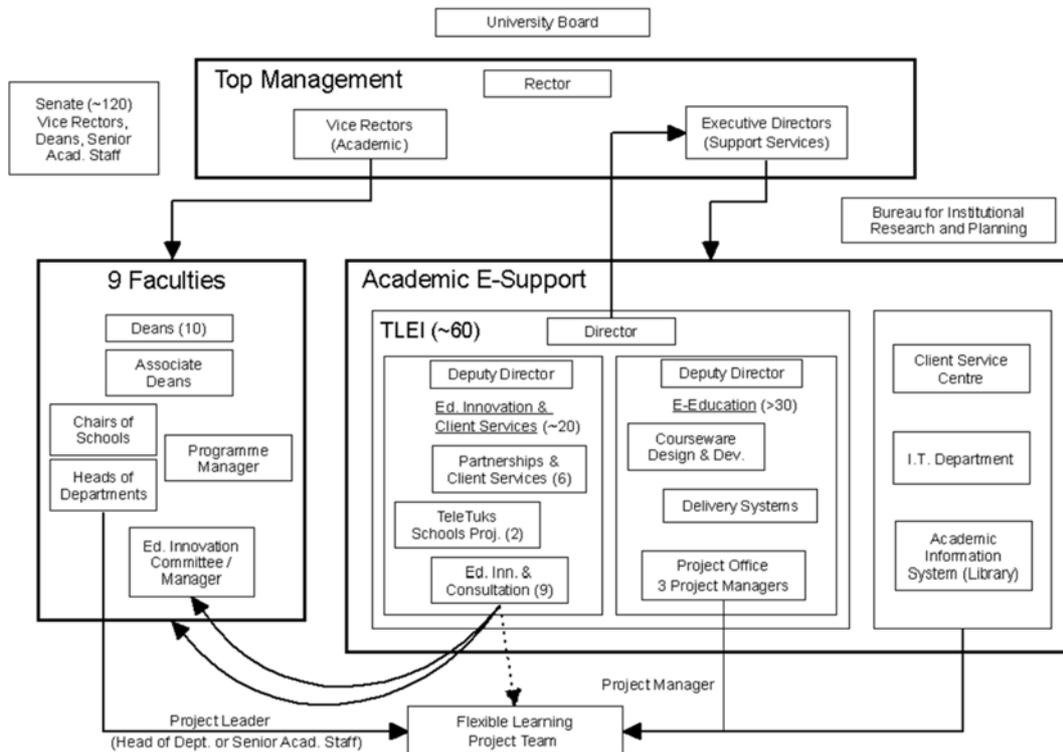
The organisational structures for flexible learning support at the University of Pretoria are summarised in Fig. 1.

At the University of Pretoria great success has been achieved in the development of online teaching and learning through the creation of positive underlying conditions:

- The university's managing board plays a significant part in the innovation process. It takes necessary structural decisions that advance the use of the new information and communication technologies in teaching. The necessary financial and personnel resources are provided and secured in the long term.
- With the Department of Telematic Learning and Education Innovation the university has been

successful in establishing a competence centre for e-learning that promotes, coordinates and operatively supports the innovation process.

- The significance of the support units in the organisation of the University of Pretoria is clearly bolstered by the fact that they decide on the award of funds and are part of the university's managing board.



**Figure 1:** Organisational structure of the University of Pretoria and academic support units

On the teaching side, the approach is to lecturers' intrinsic motivation. The form of online learning in itself and the application of innovative pedagogical approaches cannot be ordered from above. For this reason, a slow mind shift has to be brought about in a bottom-up approach. The idea and acceptance of online learning will only spread if lecturers themselves push this development ahead proactively. The employment of educational consultants is very clever, as they each have the same professional background as the faculty and, on the one hand, can develop a great deal of pedagogical imagination and, on the other hand, are accepted on a professional level. Lecturers can be opened up for the use of new media through these professionally and pedagogically competent partners. Lecturers are supported and stimulated by incentive systems. Young academic staff must be able to make a name for themselves through teaching as well, so that the extra effort is rewarded. Important steps in this direction have been taken at the University of Pretoria.

Lecturers can be supported in their commitment to online learning by professionally and pedagogically competent partners. A new professional activity, that of the online expert (educational consultant), is being created. A strict separation of process- and product-oriented support staff, as practised with the educational consultants and the instructional designers at the University of Pretoria, is not always practical, because initiating projects within the faculty usually takes place on a very personal level and ideally a close cooperative relationship develops between faculty members and the online learning experts. The online learning experts should be part of the project team and continue to accompany the development of the measure as consultants.

The consistency and determination with which the University of Pretoria, as a campus university, has developed into a mixed-mode university is impressive. The example shows that the increased employment of new media and methods of distance education at campus universities as well blur the clear boundaries between distance learning and studying on campus. What is developing is a continuum between the two poles, which we can refer to as "flexible learning".

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## Appendix 1: Guideline for expert interviews at the University of Pretoria

### Institutional Context and Support

- History and experience of UP and TLEI. What are the goals, what is the mission of TLEI? (conducting research, putting research into practice, faculty training and other services...?)
- Statistics: number of faculties, learner numbers, educational programs, enrollment figures, drop-out rates. How many undergraduate/graduate enrollments are online? How many web-enrollments per year?
- What are the policies regarding the transition from campus-based education to (online) distance education - dual-mode or mixed-mode? What is the motivation? (increased access or just for enrollments?)
- What was the starting point regarding student and faculty support? Was a major change needed for implementation (attitudes, service culture)?
- What are the policies concerning the establishment, organization, funding, and management of online programs?
- What is the process by which an online program evolves from conception to administrative authorization to implementation?
- Is UP's technical infrastructure prepared "to go online in a big way", i.e. is the infrastructure

- scalable for thousands of students? Does a centralized system provide support for building and maintaining the online learning infrastructure?
- Which learning and teaching platform is used? Is it an outside product or an in-house solution?
- What provisions have been made to assure a robust and secure technical infrastructure, providing maximum reliability for students and faculty?
- Is a consistent and coherent technical framework assured for students and faculty? When a student or instructor proceeds from one course or program to another, is it necessary to learn another software program or set of technical procedures?
- Given the rapid pace of change in modern ICT, what policies are in place to keep the infrastructure reasonably up to date?
- What are the features, capabilities, and limits of the system (communication, content presentation, assessment and monitoring tools)?

### Student Support

- Who are UP's learners (in general: racial, gender, geographical, age, occupational distribution)?
- What is the target group of the MECI?
- Are there institutional research resources in place to obtain information regarding learner characteristics and needs; effectiveness of support?

### a) Pre-Enrollment Services

- How do potential students learn about the online program? (learning outcomes for each course, course schedules, average costs (including costs of information access) and financial aid services, technology requirements and required technical competence)
- Are services for pre-registration advising, application for admission, enrollment and registration in courses available online? Is secure payment for courses possible via the Internet?
- What information and/or advice do students receive about the nature of independent learning and challenges of learning in a web-based environment? Can prospective students take self tests to determine if they have the self-motivation and commitment to learn at a distance?
- What response times are expected for questions directed to student service personnel? What are the qualifications for student advisers?

### b) Post-Enrollment Services / Learner Support

#### Counselling Services

- Is advising about financial aid services, academic planning, study and writing skills, career planning available?
- What response times are expected for questions directed to student service personnel? What are the qualifications for student academic advisers?

#### Tutoring and Teaching

- Which approach is being used for tutoring?  
The *broadcast or cmc-added-on model* characterized by a mainly one-way transmission of information, an intensive use of multimedia technology, relatively large class sizes (30+), and an emphasis on independent study?  
Or the *interactive or wholly integrated online teaching model* where the instructor is mainly responsible for facilitating the learning process, with emphasis on communication between instructor and students as well as among students, less use of expensive multimedia, and smaller class sizes (20 to 30)?
- Is the program delivered only in an online mode or are face to face sessions also included? In case face to face sessions are provided - what is the purpose?
- What provisions for instructor-student and student-student interaction are included in the courses. Is instructor feedback provided in a timely manner? What technologies are used for interaction in the program?
- What are the pedagogical approaches to learning and teaching applied in the online learning environment, e.g. collaborative learning, problem-based learning, critical incident-based learning and goal-based learning.
- Are the courses designed to require students to work in groups on problem-solving activities?
- Are various learning styles considered to meet different needs of students at a distance?
- What is the role of external study centers, if available?

#### Learning Resources

- Do student have access to online library services including reference and research assistance, access to online databases, online journals and full-text resources, and document delivery services?
- Are hands-on trainings available in using digital resources for academic purposes including library user and information literacy and research techniques?
- Is ordering, payment, delivery of textbooks and other material available via an online bookshop?

#### Academic Community

- What strategies and practices are in place to involve distance learners as part of an academic community? Do students feel they are part of a community, or that they are entirely on their own?
- Is an online electronic peer network available that enables students to interact academically and socially online?

#### Technical Support

- Is a help desk function available to students on a 24/7 basis?
- Is help available for all hardware, software, and delivery systems specified as required for the program?
- Does the help desk involve person-to-person contact for the student? And by what means, e.g.

- e-mail, asynchronous and synchronous conferencing, toll-free phone, fax? What are the expectations regarding response time?
- Is there a well-designed FAQ (Frequently Asked Questions) service online?
- How are student's complaints addressed?

### c) Post-Graduation Services

- What kind of alumni services are available? (e.g. networks for graduated students, participation in mentor programs, job resources etc.)

#### Faculty Support

- How are faculty encouraged to develop online learning courses, e.g. by incentives or rewards for excellence in teaching?
- What is the policy concerning workload, compensation, and ownership of intellectual property? Who owns online courses?

### a) Course Development and Teaching Support

- How are faculty members assisted in the transition from classroom-based teaching to online teaching? What services are available to those responsible for preparing courses?
- Is the course design process managed by teams of faculty, content experts, instructional designers and evaluation personnel? How are the technologies chosen? Are the technologies judged to be appropriate to the programs in which they are used (media selection)?
- What services are available to those faculty responsible for working directly with students? Is the principle instructor supported by tutors or student mentors (e.g. for advising students in terms of navigation, technical matters, course management: creating conferences, study group areas, posting announcements...)? What are their qualifications?
- What training programs are available? Are there opportunities for ongoing professional development and exchange of online teaching experiences (peer to peer feedback)?
- Is attention paid to possible and desirable pedagogical changes when online learning is employed?
- Are distributed faculty members supported by personal advise? Cf. role of distance education coordinators (Allen 2001).

### b) Management of Online Material and Resources

- cf. Student Support: access to online library services and training
- Does the library obtain copyright permissions and scan in selected articles?
- How are online learning and course management materials managed and archived (document management, reuse of content)?

### c) Technical Support

- Are special technical support services available for faculty members?
- Is a help desk function available to faculty on a 24/7 basis? Is help available for all hardware, software, and delivery systems specified as required for the program? Does the help desk involve person-to-person contact? And by what means, e.g. e-mail, asynchronous and synchronous conferencing, toll-free phone, fax? What are the expectations regarding response time? Is there a well-designed FAQ (Frequently Asked Questions) service online? How are complaints addressed?

#### Quality Assurance: Evaluation and Assessment

- How is the student performance evaluated compared to intended learning outcomes?
- Is student participation required in online discussions? Do faculty and tutors establish a climate that encourages communication?
- When examinations are employed, what are the methods to identify those who take the examination and to prevent plagiarism. Are services provided e.g. by the library to check the integrity of students assignments (cf. <http://www.HowOriginal.com>, a plagiarism checkpoint).
- How are the results disseminated? Is the instructor able to submit final grades online?
- What are the expectations regarding times for student assignment completion and faculty response and grading?
- Is the online course development approved through a peer review process. Do guidelines exist regarding minimum standards?
- Are the instructional materials reviewed periodically to sure they meet standards?
- How is the overall program effectiveness evaluated and measured (surveys, peer reviews...)? What types of evaluation are applied (formative, summative...)? What are the areas of evaluation, e.g. student demand, student retention, student satisfaction, faculty satisfaction, student achievement, cost-efficiency?

## Appendix 2: The University of Pretoria

### Budget

The university has two sources of income: tuition fees and government subsidy. The latter depend on the number of enrolments, graduations, as well as research outputs. In both areas the University of Pretoria is at the forefront throughout South Africa. Therefore, the university is in a very good financial position. The total budget for 2000 was about 1.4 billion Rand (1 ZAR = 0,13 EUR; state of January 2005).

### Enrolments

The number of students (including flexible learners) could have been increased continuously from 23,181 in 1993 up to 30,212 in 2001, thereof 21,297 in undergraduate and 8,915 in post graduate programmes (UP, 2001d).

In addition there are the distance students: With the introduction of correspondence education the number of enrolments could have almost been doubled since 1995. Alone in the previously mentioned

teacher training programme, a Further Diploma in Education Management, 22,185 students were registered in June 2001. In total the university had 26,784 students in print-based distance learning programmes at this time (UP, 2001b).

### Students and staff

The University of Pretoria has the mission to provide access to higher education for the entire population. Thereby, it is the goal to reflect the demographic structure of the country in terms of students and staff members. In 1993, before the end of apartheid, the proportion of white students was 95%. In 2001, 60% of students still came from the white population, although the number of non-white students (Coloured, Asian, African) increased more than fivefold in 1994, and doubled again the following year. Fifty-three percent of the students are women, 47% men (UP 2001b).

The balance in favour of whites is even greater in the case of employees: over 95% of the academic staff is white. However, the government's declared aim is a ratio of 50/50. The university employs a total of about 3140 people, not including part-time employees (UP, 2001c).

[1] "Early Childhood Intervention consists of multidisciplinary services provided to children from birth to five years of age to promote child health and well-being, enhance emerging competencies, minimize developmental delays, remediate existing or emerging disabilities, prevent functional deterioration, and promote adaptive parenting and overall family functioning. These goals are accomplished by providing individualized developmental, educational, and therapeutic services for children in conjunction with mutually planned support for their families" (Shonkoff & Meisels, 2000, p. xvii f.).

[2] <http://www.up.ac.za/academic/caac/> (accessed on May 30, 2004)

[3] <http://www.up.ac.za/telematic/> (accessed on May 30, 2004)

[4] according to Dr. Tom Brown (TLEI, Deputy Director, telephonically on Jan 14, 2003)

[5] <http://www.caac.up.ac.za/pages/activities/mastersecei.html> (accessed on January 17, 2005)