Education

Innovation

Telematic Learning and Education Innovation

Telematic

Shaping the future

2005

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The strategic drivers directing the Department of Telematic Learning and Education Innovation (TLEI) comprise a focus on education, quality, international competitiveness and innovation. The vision, mission, strategic foci and strategic objectives therefore stem from these incentives.

Vision

Education excellence at the University of Pretoria (UP).

Mission

TLEI leads, facilitates and supports education initiatives in partnership with lecturers through the integration of a wide spectrum of teaching and learning strategies, based on international best practice. The needs and specific contexts of lecturers and students are approached holistically to establish appropriate flexible learning environments.

Strategic Foci
for 2005/2006

- Roll-out of new systems (including WebCT Vista)
- Re-engineering of TLEI's work processes and activities (including the communication thereof)
- Strategic input in academic decision-making structures (including providing direction to the Academic Enterprise and Senate Committee for Teaching and Learning)
- Optimising teaching facilities in lecturing halls
- Study success at UP (study success as an umbrella concept for various education improvement priorities)

Strategic Objectives
for 2005 to 2007
(not in any order of priority)

Inspiring the innovation generation:
1. To play a leading role with regard to education excellence (both TLEI and UP). This means that TLEI contributes towards:
   - enhancing the effectiveness and efficiency of curriculum development, assessment and learning facilitation activities in faculties;
   - ensuring that the University's policy documents promote excellent education; and
   - guiding senior decision makers accordingly.
2. To develop a leading-edge position in South Africa with regard to the application of information and communication technology in education. This includes continuous adjustment and renewal interms of e-learning systems, education technology and new media.
3. To support undergraduate modules at UP by means of appropriate information and communication technology. This includes support in a variety of information and communication technology [for example assessment, multimedia, administrative support, simulations, process models, etc.]
4. To make all taught postgraduate programmes available to students on the Web.
5. To apply appropriate e-learning systems (e.g. IP conference, m-learning, synchronous web software) successfully in applicable environments
6. To implement and integrate WebCT Vista successfully with UP systems. To establish, by means of effective change management, the use and acceptance at UP of WebCT Vista and the systems with which it will be integrated.
7. To encourage UP personnel to follow relevant courses offered by TLEI (e.g. education induction, assessment, learning facilitation and e-learning facilitation, curriculum, web-supported teaching, e-administration).
8. To provide appropriate education technology in teaching venues, together with adequate maintenance and effective support.
9. To provide quality support to off-campus students: tutor services, examination services and logistical services. To investigate the possible centralisation of examination services at UP.
10. To streamline and optimise support infrastructures to enable faculties to reduce attrition rates and increase graduation rates, taking into account specific circumstances in faculties while maintaining standards.
11. To promote the strategic positioning of TLEI through the optimisation of the Department, its services and strategic values. This includes the propagation of our impact; alignment; etc.
12. To effect ongoing organisational and system development within TLEI. This includes internal quality assurance.
13. To create a work environment in which the human resources of TLEI are able to render effective services, to out-perform and to develop holistically in their career paths.
14. To extend the diversity within TLEI and achieve diversity objectives for 2006 - 2009.
15. To support strategic international initiatives in respect of consultation and training in education innovation, with special attention to Africa.
16. To continuously set the foundations and renew the functioning of TLEI by means of purposeful action research that keeps abreast with the latest international developments and trends.
17. To optimise study success at UP.

Note: The above strategic objectives are pursued in addition to the normal support services activities of TLEI, such as education consultation, instructional design, graphic, photographic, video, off-campus services, rental services and all other regular services.

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...who ably and efficiently support the support staff!

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Logistics, Off-campus Support and Partnerships

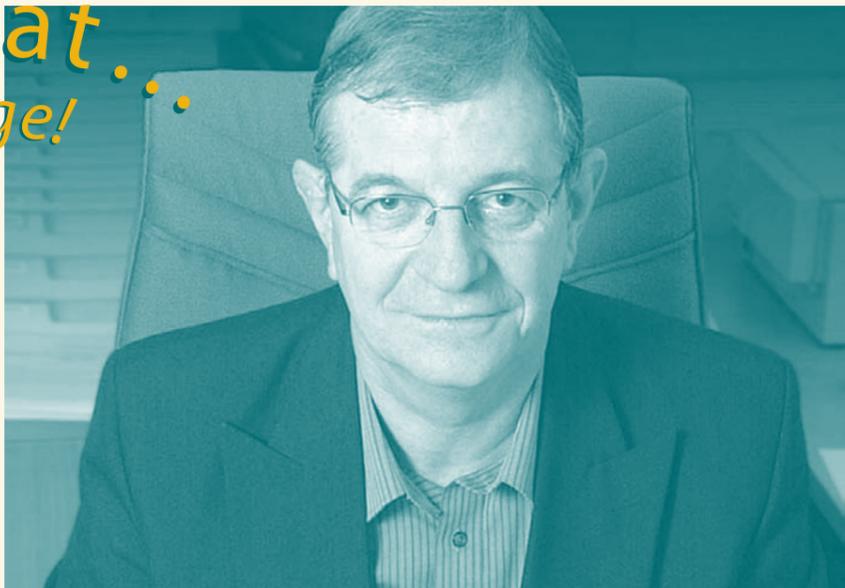| Name	Position	Telephone	E-mail
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Telematic Learning and Education Innovation

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Good to Great... ...what a challenge!

The Vice Chancellor and Principal of our University introduced us to the book "Good to Great" by Jim Collins. The first sentence in this book is "Good is the enemy of great" (Collins:1). This is not the place to contemplate definitions of 'good' and 'great', nor the process of becoming great. However when writing an annual review for 2005, it is important to reflect on the good and the great in our department. As is applicable to a general review, I will concentrate on the highlights of 2005 and then contemplate a few challenges that lie ahead!

• Educational consultancy provides designated support to all categories of teaching staff in promoting best practices in teaching, learning and assessment. **Numerous training courses** were conducted in 2005: Education Induction Programme, Training Junior staff members, Assessment Workshops and Tutor Training. Supporting academic staff members with respect to learning materials (e.g. the revision of study guides), assessment opportunities and instruments has been a high priority. The assessment policy of the University of Pretoria was addressed in 2005 by developing a conceptual framework and a set of **12 principles for good assessment**. It is sincerely hoped that the university community accepts these 12 principles and puts them to good use in reviewing current assessment strategies.

• Simultaneously work began on developing **principles of teaching excellence** underpinning our educational practice in line with the principles of scholarly teaching. These principles could serve as points of departure for excellent educational practice at the University of Pretoria.

• The initial preparation and planning for the implementation of an upgraded learning management system, **WebCT Vista**, has been a major event in the Department. In order to avoid brand names, the upgraded system has since been named the "clickUP system", implying that it presents an opportunity to "clickUP one's teaching practice at UP". A number of academic staff will participate in the two pilot phases scheduled for January and July 2006.

Full implementation of all the upgraded first semester courses is planned for January 2007, with second semester courses to be converted by July 2007.

• I find it heartening that all faculties are in some or other way paying increasing attention to education innovation. It is important that we learn from and support each other. For that reason innovation committees in the faculties meet regularly and with TLEI's support, are developing their own **education innovation plans.**

• Another positive development during 2005 was the fact that TLEI is now involved much earlier in the institutional process for the accreditation of new academic programmes. This means that the **design** of such programmes can benefit from the start from expert educational input.

• Online learning via the Internet is one of the delivery modes used, where appropriate, in a flexible learning mode. The numbers of undergraduate, postgraduate and courses for continuing education are increasing year by year. In 2005 the **total number** of courses in WebCT was **2400.** In addition, over the last nine years the E-education team has developed different types of stand-alone multimedia programmes, including tutorials, simulations, case studies and collections of visual resources.

• **E-testing** has become an integral part of the assessment strategies of a number of academic departments. Computer laboratories are available for e-testing on the Hatfield, Prinshof, Onderstepoort

TLEI- Staff 2005

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Modules in WebCT

	2003	2004	2005
Undergraduate UP modules:	391	847	1036
Postgraduate UP modules:	675	754	874
CE at UP courses:	5	21	30
Number of students with access to WebCT:	21 200	26 576	30 201
Number of personnel with access to WebCT:	802	987	726
Number of departments involved:	86	95	115

Computer-based Testing

		2003	2004	2005
Number of tests created	Main Campus	164	173	178
	Health Sciences	126	137	196
	Onderstepoort	21	25	22
	WebCT tests			147
		311	335	543
Tests completed by students	Main Campus	110 515	109 792	83 670
	Health Sciences	12 356	13 769	22 388
	Onderstepoort	1 980	2 207	1 906
	WebCT tests			41 879
		124 851	125 768	149 843
Number of departments / groups	Main Campus	20	33	30
	Health Sciences	21	18	22
	Onderstepoort	5	5	7
	WebCT tests			15
		46	56	74

Multimedia Projects Completed in 2005

Department	Title	Project Leader	Instructional Designer
1. TLEI	Student CD-ROM – 2006 version	Dr J Fresen	Johan Slabbert, Liana Venter
2. Occupational Therapy	Hand Therapy Tutor	Ms C van Velze	Detken Scheepers
3. School of Dentistry	Maxillo Facial Pathology	Prof WFP van Heerden	Magdaleen Kotze
4. Veterinary Tropical Diseases	Selected Infectious Diseases: Cattle	Prof JAW Coetzer	Linda Venter, Dr El-Marie Mostert
5. Veterinary Tropical Diseases	Selected Infectious Diseases: Companion animals	Prof JAW Coetzer, Prof M van Vuuren	Linda Venter, Dr El-Marie Mostert
6. Veterinary Tropical Diseases	Selected Infectious Diseases: Wildlife	Prof JAW Coetzer, Prof M van Vuuren	Linda Venter, Dr El-Marie Mostert
7. Veterinary Tropical Diseases	Helminth Infections: Ruminants	Prof JAW Coetzer, Prof Joop Boomker	Linda Venter, Dr El-Marie Mostert
8. Veterinary Tropical Diseases	Tick-borne Diseases: Ruminants	Prof JAW Coetzer, Prof BL Penzhorn	Linda Venter, Dr El-Marie Mostert
9. Legal History	Historical Foundations of South African Private Law	Prof P Thomas	Johan Slabbert
10. Physiology	A virtual guide to fitness and performance in tennis	Dr PJ du Toit	Outside contractors
11. Family Medicine	6 modules completed	Prof J. Blitz-Lindeque	Erika de Bruyn, Magdaleen Kotze, Hannelie Untiedt
12. Paediatrics	The Normal Child	Prof M Kruger	Anne Strehler

and Groenkloof campuses. A total of 149 843 tests were presented in 2005. Self-assessment opportunities are also available in WebCT, in which a total of 41 879 quizzes were completed.

• It is of the utmost importance to **train** academic staff members in **web-supported learning.** A number of courses were presented on a regular basis: WebCT High Impact, WebCT Intermediate, WebCT Designer courses, as well as the Facilitation of E-learning course. In 2005 a total of 153 academic staff across all faculties attended these courses.

• **Educational technology** is in a constant mode of change. Many lecture halls were upgraded and equipped with data projectors in particular. A translation and conference system was installed in the Senate Hall.

• **Mobile learning** (m-learning) is a natural extension of e-learning and has the potential to make learning even more widely available and accessible. Good progress was made with several m-learning projects, for example, the use of PDA's in clinical assessment and the wireless network environment. Four categories of academic support are provided to distance students in the Faculty of Education: FAQs from students; sms quizzes; an sms question and answer system, and brief academic instructional messages.

• **Research** and **development** in higher education remains a high priority with the University of Pretoria. The following special projects were addressed in 2005:
  • Study guides
  • Students with special needs
  • Study success
  • Towards an assessment policy
  • Student feedback on the quality of education
  • Electronic Student Academic Portfolio (eSap)
  • Electronic Comprehensive Patient Care and Education system (eCPCES)
  • Teaching and learning in large classes
  • Completion indices of postgraduate programmes.

• The **graphics, video** and **photography** sections continue to provide specialised services to all departments at the University. Advances in technology make it possible to include increasingly sophisticated multimedia (video, sound, animation, digital photographs, complex graphic images) in learning material provided to students. This promotes

visual literacy and enhances the learning experience. The graphic designers won several awards for excellent posters.

• Interaction and collaboration **at international level** is strongly encouraged. Collaboration with the following institutions progressed during 2005:
  • Imperial College, London
  • University of Bergen, Norway
  • The Prince Leopold Institute for Tropical Medicine, Belgium
  • University of Dortmund.

Sixteen staff members of the Department made presentations at **international conferences.** Dr Tom Brown's leading-edge research was acknowledged by invitations to be a keynote speaker on m-learning at conferences in Israel and Ireland.

Against the background of all the 'good' and the 'great' already mentioned, there remains a number of **important challenges:**

• **Training** and **ongoing professional** development of academic staff members in teaching, assessment, and best practices remain a very high priority. The more training and support offered to academic staff members, the more education excellence will be inherent in great academic staff members.

• Although approximately 700 academic staff members currently use WebCT at various levels of complexity, TLEI needs actively to stimulate the use of the more **advanced functions** of WebCT. Such advancement pre-supposes that academic staff members think anew about the advantages of web-supported learning and progress beyond its use as 'paper behind glass' or an electronic ' page-turner'.

• The **late majority** of academic staff members need to commit themselves to the use of e-learning. Innovative and stimulating plans need to be developed to involve these members of staff and to re-think the types of learning models in both existing and new academic programmes in order to enhance learning. Fortunately the younger generation of students, who are already immersed in the use of electronic support, are part of the 'push factor'.

• Although much has been done to equip lecture halls with new and **appropriate education technology**, the continuous improvement and upgrading thereof

needs urgent attention. The Educational Technology plan for 2006-2010 needs to be implemented.

• The **assessment system** in general at the University of Pretoria needs to be re-thought and revised with the 12 principles of assessment in mind. In particular, **E-testing** could be used more extensively, in order to lessen the assessment workload of academic staff.

• In its mission TLEI states that it leads, facilitates and supports education innovation. We intend to be more pro-active in terms of stimulating and promoting excellence in teaching and learning at UP. Together with academic staff, we are **co-responsible** and **co-accountable** for education excellence.

• The use of modern electronic technology to support teaching and learning requires constant **upgrading of the information and communication infrastructure** at the University of Pretoria. This pertains not only to hardware and software infrastructure, but especially to academic computing and associated expertise in this area.

• Staff members of TLEI should continue to be at the **forefront of teaching and learning** in higher education by providing examples and evidence of best practices, as demonstrated by international research in the field. We should be role models with regard to education innovation.

• **Leadership** is of overarching importance. TLEI leaders need to be innovative, realistic, and disciplined, while embodying a "paradoxical mix of personal humility and professional will" (Collins: 39).

The teams of TLEI staff members enable all good and great things to happen. To them I would like to express my sincere **appreciation** for their hard and professional work, often beyond expectations. To those that have leadership positions, a special word of thanks.

Hans Boon
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12 May 2006

Krüger, C, Blitz-Lindeque, JJ, Pickworth, GE, Munro AJ & Lotriet, M. (2005). Communication skills for medical/dental students at the University of Pretoria: Lessons learnt from a two-year study using a forum theatre method. SA Family Practice, 47(6), 60-65.

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Skeie S., Perich C., Ricos C., Araczki A., Horvath AR., Oosterhuis WP., Bubner T., Nordin G., Delport R., Thue G., & Sandberg S. (2005). Postanalytical external quality assessment of blood glucose and hemoglobin A1c: An international survey. Clin Chem, 51(7), 1145-1153.

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Training provided 2005

Course/Workshop	Times presented	Total participants	Number of participants per faculty									
			EDU	E&MS	HS	HUMAN	EBIT	LAW	N&AS	THEO	VET	OTHER
WebCT High Impact	10	81	14	6	11	6	9	2	13		4	16
WebCT Intermediate	5	33	3	2	5	1	5		7		2	8
WebCT Designer	1	7			2	1		1	3			
Facilitation e-learn	2	32	1		4				1		24	2
Informal JIT e-learning sessions		130	13	35		7	1	3	5	1		65
Education Induction (Afr + Eng)	3	84										
Assessment	3	40										
Educational media	4	43										
Educational themes	8	54										
Objective assessment		27					27					
Education induction for junior lecturers	3	74										
Tutor training		95										

Education Innovation

The creation of resource-rich and flexible learning environments...

The University of Pretoria (UP) has embraced the new information era and the use of technology for electronic learning in a holistic way. Its infrastructure is modern and sophisticated and it has developed substantial expertise in flexible learning and education innovation.

Extensive educational support services are provided to academic staff members to assist with improving teaching methodologies and strategies: striving towards best practice in terms of curriculum development, learning facilitation and assessment.

UP's educational model incorporates the flexible needs of learners, making the student the central focus in the design and development of learning opportunities. International trends in education innovation are taken into account whilst simultaneously addressing the unique needs of a developing country through appropriate technology-enhanced delivery systems.

The focus is shifting from teaching and the transfer of knowledge, to learning and the facilitation of learning processes, supported by appropriate educational information and communications technology (ICT). Conventional contact tuition is the dominant mode of instruction for our full-time residential learners, while effective use is made of new ICTs to enhance teaching and learning within a flexible learning and resource-rich environment. For some students, particularly mature students not able to be on campus full-time, the notion of lifelong learning compels us to provide mixed delivery systems for some postgraduate programmes. Traditional distance education is provided within three niche programmes in the Faculty of Education.

In a flexible learning environment the lecturer is no longer the single source of information. Multiple educational resources are developed to provide a resource-rich learning environment. Electronic education is offered through the skilfull and appropriate integration of various ICTs including the worldwide web (WWW), interactive multimedia, computer-assisted testing and assessment, video conferencing and various other visual and audio productions. Modern educational technology is provided in classrooms and other learning spaces to enhance contact teaching and learning experiences.

Driven and guided by our vision of education excellence at the University, the Department of Telematic Learning and Education Innovation plays a kingpin role in promoting and stimulating education innovation. Our education innovation initiatives focus on the creation of resource-rich and flexible learning environments, underpinned by eleven principles of teaching excellence, with a view to continuously improving study success.

Naidoo, NA. (2005). INNOVIL: teaching as 'determinate phenomenon'. SAARDHE 2005 - The Africa University in the 21st Century, Durban, 27-29 June.

Strehler, A. (2005). Assessing the design of CD-ROM-based multimedia – does the program design accommodate individual differences in cognitive and learning styles. SAAHE Regional Health Sciences Education Meeting, Cape Town, 8-9 April.

Strehler, A. & Treadwell, I. (2005). eSAP: Getting the shoe to fit. SAAHE Regional Health Sciences Education Meeting, Cape Town, 8-9 April.

Van Velze, C., Scheepers, D. & Strehler, A. (2005). Innovations in hand therapy teaching. SAAHE Regional Health Sciences Education Meeting, Cape Town, 8-9 April.

Conferences Attended

Du Pisani, LA. Gartner Symposium/ITxpo. Cape Town. 1-3 August 2005.

Jordaan, AJJ. mLearn 2005, 4th international world conference on mobile learning, Cape Town, South Africa, 25-28 October 2005.

Le Roux, I. Gartner Symposium/ITxpo. Cape Town. 1-3 August 2005.

Mostert, E-M. mLearn 2005, 4th international world conference on mobile learning, Cape Town, South Africa, 25-28 October 2005

Ndlovu MF. FOTIM Conference - Erasing the margins: Research disability in Higher Education, University of Johannesburg, South Africa, 5-7 October 2005

Ndlovu MF. FOTIM Conference - Mentoring: An instrument for transformation, University of Johannesburg, South Africa, 11-12 October 2005.

Pickworth, GE. Improving Student Learning conference on assessment, Imperial College London, 5-7 September 2005.

Slabbert, JA. mLearn 2005, 4th international world conference on mobile learning, Cape Town, South Africa, 25-28 October 2005.

Venter, JW. mLearn 2005, 4th international world conference on mobile learning, Cape Town, South Africa, 25-28 October 2005.

Visits to International Universities / Institutions

Fresen, JW. Institute of Educational Technology, Open University, Milton Keynes, UK: Researching student perceptions of quality online learning.

Fresen, JW. Learning Technologies Unit, London Knowledge Lab, University of London, UK: Evaluation of e-learning.

Strehler, A. DxR Development Group, Carbondale, USA: Training in authoring software.

Strehler, A. University of California, Santa Barbara, USA: Research in the field of Multimedia development and Learning Theory development.

Strehler, A. Stanford Center for Innovations in Learning, Stanford, USA: Evaluation of Virtual Labs Project.

Publications

Brown, TH. (2005). Beyond constructivism: Exploring future learning paradigms. Education Today, 2(2), 14.

Brown, TH. (2005). Towards a model for m-learning in Africa. International Journal on E-learning, 4(3), 299-315.

Brown, TH. (in press, 2005). M-learning in Africa: Doing the unthinkable and reaching the unreachable. Article accepted for publication in Open and Distance Learning Praxis in Africa, Unisa Press, South Africa

Engelbrecht, JC., Le Roux, I., Harding, AF. & Lazenby, K. (2005). Handbook of blended learning: Global perspectives, local designs. Pfeiffer Publishing, San Francisco

Fresen, JW. (2005). Quality assurance practice in online (web-supported) learning in higher education. Unpublished PhD thesis, University of Pretoria.

Fresen, JW. (2005). Self-evaluation in the e-learning unit at the University of Pretoria. In Welch, T. & Reed, Y. (Eds.). Designing and Delivering Distance Education: Quality Criteria and Case Studies from South Africa. Johannesburg: NADEOSA.

Fresen, JW. (in press). A taxonomy of factors to promote quality web-supported learning. To appear in the International Journal on E-Learning.

Fresen, JW. & Boyd, LG. (2005). Caught in the web of quality. International Journal of Educational Development, 25(3), 317-331.

Fresen, JW. & Cronjé, JC. (2005). A cognitive model to promote excellence in web-supported learning. Proceedings of the 7th Annual Conference on World Wide Web Applications, 29-31 August 2005, Cape Town. Auckland Park: University of Johannesburg. ISBN: 0-620-35079-2. Available at http://www.zaw3.co.za.

Principles of Teaching Excellence Underpinning our Educational Practice...

Through continuous R&D on teaching and learning, outdated practices are reversed and leading best practices become the norm through diffusion and adoption at strategic, functional and operational levels for both residential and distance education offerings. Teaching activities at UP are aimed at the facilitation of student learning, within and outside the context of the classroom.

The University of Pretoria, in the spirit of Ernest Boyer, views its teaching responsibility as a scholarship amongst other scholarships (scholarship of discovery and integration – research, scholarship of application – community service). Scholarly teaching **"…both educates and entices future scholars"** (Boyer 1990: 23).

According to Boyer, lecturers engaged in a scholarly teaching enterprise:
- must be thoroughly knowledgeable in their given fields;
- pursue clear teaching goals and employ appropriate methods;
- are informed by educational theories and best practices;
- are adequately prepared and facilitate effective delivery;
- require significant results and render effective critique;
- reflect on their teaching and continuously improve on it.

In line with the principles of scholarly teaching, and based on scientifically founded education principles and processes, teaching at UP strives to:

1.Connect to learning: Teaching promotes and nurtures a culture of learning. The aim of teaching is to make student learning 'happen' and to make this process transparent (learning-centred approach).

2.Extend knowledge: Teaching is aimed at enriching its academic programmes with international, national and local perspectives through the realisation of:

- set discipline-specific knowledge, skills and attitudes e.g. learn concepts and theories of discipline; develop skills in using materials, tools and/or technology central to the discipline, learn to understand perspectives and values of the discipline, learn to evaluate methods, techniques and materials of the discipline.
- generic learning outcomes: academic discourse and literacy skills, such as numeracy skills, scholarly language, speaking skills, writing skills, critical thinking, problem solving, information handling and computer literacy skills, graduate attributes.

3. Nurture complexity (deep knowledge): Promote the use of higher order thinking skills e.g. the ability to apply principles and generalisations to new problems and situations (transfer of learning), develop analytical skills, problem solving skills, think creatively, think holistically, develop intellectual and cultural curiosity, to critically challenge assumptions and embrace new thinking

4.Build connections between knowledge: Facilitate the construction of meaning, promote understanding, and connect theory and practice.

5.Invite engagement: Encourage interaction between students and lecturer, amongst students, and between students and learning material and promote active and collaborative learning that makes provision for continual feedback.

6.Transform learning and inspire change: Learning is a qualitative change in a person's view of reality; it involves conceptual change.

7.Be challenging: Teaching practices should prompt students to critically question their existing knowledge, skills and beliefs; challenging learners to excel.

8.Be constantly reflective: Afford students opportunities to critically

reflect on what they have learnt, what impact it has had on their perspectives and how it should influence their future behaviour. Deep reflection leads to transformative learning and meta-cognitive awareness.

9.Provide appropriate academic and administrative support:
- Teaching practices are characterised by a variety of teaching strategies, methods and approaches which establish learning environments that support learning;
- Teaching practices which include quality facilitation of learning by lecturers, tutors and teaching assistants, academic information services, administrative services, and properly developed outcomes -based study material.

10. Respect diversity: Teaching acknowledges diverse values, beliefs, talents, backgrounds, varying learning approaches and needs (including special needs and disabilities), and educational experiences.

11. Create empowering learning environments: Teaching practices are informed by educational theories and best practices, lead to authentic learning experiences that encourage students to become motivated, autonomous learners with a life-long, self-directed disposition towards learning.

Our Commitment to Education Innovation…

The Department of Telematic Learning and Education Innovation is committed to the delivery of services, products and systems that embrace the principles of:
- fitness for purpose;
- client satisfaction;
- cost effectiveness;
- defined standards;
- negotiated time frames and
- continuous improvement of the Department's processes and functions.

Educational Consultancy

Educational Consultancy provides designated support to all categories of teaching staff at the University within faculties to promote best practices in teaching, learning and assessment.

The activities of the Education Consultants include:

- Supporting groups and individual lecturers with the planning and development of (amongst others) learning opportunities, learning materials, curricula, assessment opportunities and assessment instruments;
- Offering training in terms of the above and/or other relevant topics;
- Facilitating discussions/sessions on relevant topics such as 'large classes';
- Evaluating (on request only) the various aspects of teaching practice as mentioned above (e.g. class visits);
- Assisting staff to refocus on their study guides as the fulcrum of their teaching, learning and assessment practice;
- Providing educational input and support at relevant forums, such as the programme committee, the education innovation committee and other relevant ad hoc committees;
- Co-ordinating the education induction programme for newly appointed lecturers (campus-wide) and providing continuous support to new lecturers in faculties;
- Presenting and facilitating a general training programme for tutors;
- Facilitating open discussion between tutor co-ordinators;
- Supporting and conducting educational surveys and research within faculties;
- Forming part of e-learning project development teams - advising on appropriate learning models and other educational aspects;
- Sensitising lecturers to the needs of students with special needs/disabilities;
- Addressing concerns and needs of lecturers in collaboration with the Disability Unit.

Education Induction Programme

The Department offers regular education induction programmes to newly appointed lecturers. The introductory week-long course introduces participants to the theory and skills relating to teaching responsibilities in higher education and is aligned with the National Standards for Higher Education. Apart from this introductory week, various follow-up activities form part of the complete programme. The induction programme was presented three times during 2005 and was attended by 84 lecturers in total.

Training of Junior Staff Members

Education consultants provide training and support within faculties to prepare junior staff for their responsibilities as learning facilitators. These workshops include amongst

Organisation of International Conferences

Brown, TH. (2005). Member of the Steering Committee and Programme Committee of DETA 2005, the international conference on Distance Education and Teacher Training in Africa, Pretoria, South Africa, 7 – 9 August.

Brown, TH. (2005). Co-chair of the Steering Committee and Programme Committee of mLearn 2005, the 4th international world conference on mobile learning, Cape Town, South Africa, 25 – 28 October.

Brown, TH. (2005). Organising as well as invited member of the Future Scenario Planning Worskhop of the International G1:1 Technology Enhanced Learning Group, Cape Town, South Africa, 24 October.

Freysen, J.B. (2005). Steering Committee and Program Committee of mLearn 2005, the 4th international world conference on mobile learning, Cape Town, South Africa, 25 – 28 October.

International Guest Lectures

Brown, TH. (2005). Issues for m-learning research. Invited guest lecture at the University of Tel Aviv, Tel Aviv, Israel, 7 June 2005.

Brown, TH. & Van der Merwe, HJ. (2005). Mobile Technology: The future of learning in your hands. Invited guest lecture at the Open University, Milton Keynes, UK, 15 September 2005.

Brown, TH. (2005). Online guest lecture series on project management in e-learning and distance education in the module: Training and learning with multimedia of the Online Masters in Distance Education of the Universities of Maryland (USA) and Oldenburg (Germany), 17-24 November 2005.

International Workshop Presentations

Steyn, AB & Brodeur, D. (2005). Active Learning, CDIO Collaborators meeting, University of Pretoria, Pretoria, 14–18 February.

Steyn, AB & Soderholm, D. (2005). Experiential Learning, CDIO Annual Conference and Collaborators meeting, University of Queens, Kingston Canada, 06 - 09 June.

Steyn, AB. (2005) Active and Experiential Learning, CDIO Collaborators meeting, Liverpool University, Liverpool, UK, 7 - 11 November.

Treadwell, I. & Strehler, A. (2005). Rubrics, part 1: Creating rubrics to transform assessment into learning. Spice of Life Conference, Portland, USA, 14-18 June.

Treadwell, I. & Strehler, A. (2005). Rubrics, part 2: Transforming assessment into learning using technology: setting standards for online tools. Spice of Life Conference, Portland, USA, 14-18 June.

International Poster Presentations

Treadwell, I. & Strehler, A. (2005). Development of the eSAP: Reviewing user needs, expectations and perceptions. Slice of Life Conference, Portland, USA, 14-18 June.

Treadwell, I. & Strehler, A. (2005). An online electronic student academic portfolio. Slice of Life Conference, Portland, USA, 14-18 June.

National Conference Presentations

Drysdale, E. (2005). Adoption of a WebCT learning environment in lecture-based mining engineering education. World Conference on Computers and Education, Cape Town, 4-7 July.

Du Plessis, GI. (2005). The role of the Educator. International Surgical Week 2005., Durban, 21-25 August.

Fresen, JW. & Cronjé, JC. (2005). A cognitive model to promote excellence in web-supported learning. 7th Annual Conference on World Wide Web Applications, Cape Peninsula University of Technology, 29-31 August.

Haupt, S. (2005). Herding tacit knowledge: The opportunity for real teamwork to digitise information resources in support of learning, teaching and research at the University of Pretoria. Paper presented at the 5th International Conference of Animal Health Information Specialists, Onderstepoort, University of Pretoria, 4 - 7 July.

Jordaan, AJJ. (2005). Software applications to support international collaboration between educational institutions in developed and developing countries. World Conference on Computers and Education, Cape Town, 4-7 July.

Kruger, M., Goosen, E. & Strehler, A. (2005). A CD-based telematic tool to enhance undergraduate teaching in clinical paediatric skills. SAAHE Regional Health Sciences Education Meeting, Cape Town, 8-9 April.

Le Roux, I. (2005). Success factors in e-Learning at the University of Pretoria. Executive e-Learning Seminar, Simons Town, 4 May.

Le Roux, I. (2005). The use of methods and frameworks to analyse e-learning. Cultivate Best Practice Seminar, Pretoria, 21 October.

International Conference Presentations

Bornman, MS., Delport, R., Becker, P., Risenga, S. & De Jager, C. (2005). Urogenital Birth Defects In Neonates From a High-Risk Malaria Area in Limpopo Province, South Africa. 17th ISEE Conference, Johannesburg, South Africa, 13-16 September.

Brown, TH. (2005). New trends and some thoughts on the future of m-learning. **Keynote address** delivered at the MEITAL Conference, Ben-Gurion University, Beer Sheva, Israel, 8 June 2005.

Brown, TH. (2005). M-learning: Doing the unthinkable and reaching the unreachable. **Keynote address** at the Ericsson International Conference on mobile learning and mobile technologies, Dublin, Ireland, 9 September 2005.

De Jager C., Kilian E., Bornman MS. & Delport R. (2005). Interactive effects of a relevant environmental mixture of known endocrine disrupting substances on fertility parameters in rats. 3rd Workshop on Environment, Reproductive Health and Fertility, Copenhagen, Denmark, 15-18 January.

Delport R., Le Roux I., Vemaak WJH. (2005). Integrating active learning within postgraduate Chemical Pathology programmes. 45th Conference of the Federation of the South African Societies of Pathology, Saint George Hotel, Rietvleidam, Gauteng, 3-5 July. Platform presentation.

Fresen, JW. (2005). A Taxonomy of factors to promote quality web-supported learning. Paper presented at the Ed-Media World Conference on Educational Multimedia, Hypermedia & Tele-communications, Montreal, Canada, 27 June-2 July.

Freysen, J.B. & Kjaergård, T. (2005). Using computers for collaborative learning in higher education: Fiction, fallacy or panacea? Paper presented at the international conference on Knowledge Production and Higher Education in the 21st Century, Bergen, Norway, 30 August-2 September.

Jordaan, AJJ. (2005). Case study: University of Pretoria, IT and E-learning. Joint ITU/UNU/CERN Workshop on AFUNET, Geneva, Switzerland, 25-27 September.

Lotriet, H.H. & Lotriet, M. (2005). Paradigm shifts through cases? Paper presented at the 11th Biennial EARLI Conference, University of Cyprus, Cyprus, 23-27 August.

Lotriet, M. & Volschenk, G. (2005). The power of process. Paper presented as part of an invited symposium at the 11th Biennial EARLI Conference, University of Cyprus, Cyprus, 23-27 August.

Naidoo, NA. (2005). Graduating by degrees: Exploring mentored research writing within graduate supervision. Paper presented at the international conference on Knowledge Production and Higher Education in the 21st Century, Bergen, Norway, 30 August-2 September.

Schulenburg G, Aneck-Hahn NH, Delport R, Bornman MS. & De Jager C. (2005). Sperm motion parameters after DDT exposure in a malaria area in South Africa: A preliminary report. 3rd Workshop on Environment, Reproductive Health and Fertility, Copenhagen, Denmark, 15-18 January.

Steyn, AB. (2005). Sculpting the sculptor, CDIO Annual conference, Kingston, Canada, 6-9 June.

Steyn, AB. & Joubert JW. (2005). Assessment as the driver behind operationalising operations research teaching, American Society for Engineering Education (ASEE) Annual conference, Portland, USA, 13-16 June.

Strehler, A. (2005). Developing an instrument to assess the extent to which the design of multimedia CD-Roms accommodates individual differences in cognitive style. Paper presented at the Ed-Media World Conference on Educational Multimedia, Hypermedia & Tele-communications, Montreal, Canada, 27 June-2 July.

Volschenk, G. (2005). Why law lecturers sometimes give UP: teaching difficulties experienced by UP law lecturers. Paper presented at the 11th Biennial EARLI Conference, University of Cyprus, Cyprus, 23-27 August.

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others, INNOVIL, a customised education induction course for facilitators of CIL courses, iNNOVALT, an induction course for novice assistant lecturers and tutors in the School of IT, training of Faculty of Law Academic Associates and customised sessions for tutors from a variety of faculties. During 2005, 95 junior lecturers and tutors from a variety of faculties attended customised training sessions.

Assessment Workshops

The Department presents a three-day Assessment Workshop that addresses principles of assessment and planning for assessment. The Workshop also includes a series of sessions on specific assessment methods (e.g. written examinations, orals, practical examinations, portfolios). Three assessment workshops were presented during 2005 attended by 40 lecturers.

Faculty-specific Highlights

Health Sciences: In the School of Medicine the ongoing block-by-block audit to evaluate the assessment practice in each block continued. This exercise was supplemented by the review of multiple choice questions for specific blocks with a view to building item banks of questions, as well as short training sessions on assessment for staff in four departments. In the School of Dentistry the Quality Assurance Committee continued with a thorough self-evaluation audit of the BChD curriculum in preparation for the accreditation visit by the Health Professions Council of SA in 2007. Study guides were reviewed in all the Schools in the faculty.

Veterinary Science: Study guides for the BVSc and DVN courses were reviewed. Information documents were compiled for the MMed disciplines to provide students with relevant information on the study requirements for these courses.

Humanities:
Teaching and Learning Discussion Forums

The aim of the Humanities Education Innovation Committee in 2005 was to stimulate discussion and debate around teaching in the Faculty. As part of the broader theme "*Teaching values and value systems*", two Teaching and Learning Forums were hosted in the Faculty:

Discussion Forum 1: Stimulating Critical Thinking - 27 May 2005

About 60 lecturers from the Faculty of Humanities attended this session. The programme consisted of 3 presentations from lecturers within the Faculty, followed by an open discussion and debate facilitated by *Dr A Gildenhuys (Humanities Education Innovation Committee)*. The topics presented were:

• Critical reasoning skills: A key to independent clinical practice *(Ms A Bodenstein, Communication Pathology)*
• Learning through reflective thinking: Introducing reflection oriented activities into the information design curricula *(Ms NA Cunningham, Visual Arts)*
• Critical thinking in learning/teaching history and in writing history *(Dr Lize Kriel, Historical and Heritage Studies)* Tips on how to stimulate critical thinking were shared.

Discussion Forum 2: Student Academic Empowerment – 28 October 2005

Between 50 and 60 lecturers attended this event, including the Education Innovation Managers of the Faculties of Law and Veterinary Sciences. The programme consisted of short presentations by students who were nominated by departments in the Faculty and selected by the Humanities Education Innovation Committee. A postgraduate student, *Michelle Kiley (Criminology)* facilitated the panel discussion. The following students participated in the panel discussion

• Tara Harris (Criminology): Post-graduate perspective

• Alida Green (Historical and Heritage Studies): Tutor perspective
• Matt Toley (Historical and Heritage Studies): International perspective
• Ilouise Snyman (Communication Pathology): Undergraduate perspective

A student panel discussion including the above presenters, as well as *Romeo Sinclair (Music) and Hilda Fourie (Historical and Heritage Studies)* followed. This was facilitated by *Dr A Gildenhuys (Humanities Education Innovation Committee).*

Engineering, the Built Environment and Information Technology:

2005 was a good year for the EBIT faculty in that staff members managed to increase their research output while still improving aspects of their educational practice.

The drive of the Faculty to foster a culture of electronic support for all undergraduate modules moved to a stage where some departments have already reached this goal and are looking towards expanding this support to more postgraduate modules. Many postgraduate modules are already active and some of the combinations of methods used are not only examples of good facilitation of e-learning, but also stand as innovative educational approaches. A noticeable and positive phenomenon is the ever increasing level of independence with which various departments offer a range of methodologies catering for diverse needs. This seems to indicate an initial maturation of flexible learning as an approach to engineering education.

CDIO (Conceive Design, Implement, Operate) is an international drive to lift the standard and quality of engineering education, in order to meet and exceed the expectations of the market. The University of Pretoria officially adopted this approach and hosted the international collaborators meeting in Pretoria at the beginning of 2005. While the enhancement of educational practice is an ongoing endeavour, comparisons between the work of the Faculty and CDIO

standards already compare favourably. The University has also been selected as the CDIO representative for Southern Africa.

The co-operation of the Faculty in the study guide project was heartening and preliminary results indicate significant benefits of having paid attention in recent years to the provision of improved guides to students.

Education: The Faculty's Assessment Policy was refined and approved at the Faculty Board meeting in July 2005, although it is still considered to be a working document.

The teaching and learning possibilities of interactive electronic whiteboards were demonstrated on two occasions to both staff and students. The product is accompanied by very extensive and powerful software in all learning areas and phases. A decision was taken to purchase two boards, not only for use as part of methodology and media training, but also to assist in the facilitation of learning at postgraduate level.

The use of the electronic learning platform (WebCT) was adopted by an increasing number of lecturers for administration, to facilitate and maintain online discussions, assessments and to sustain academic discourse among lecturers and students.

After reflection on the feedback received from colleagues and students, the content and mode of presentation of the module on Assessment (JAS 451) was revised. It has since been decided that the module will be presented by means

of interactive workshops and that a dialogue will be initiated between lecturers and students. The mode of presentation will move away from the top-down transmission of knowledge to an engagement in critical thinking between lecturers and students. Students will be required to apply knowledge gained in the module during their teaching practice at schools and give evidence of the creation and implementation of an assessment plan.

The following innovative workshops were developed and presented by the Education Innovation manager:
• Effective conference presentations.
• How to design powerful electronic slideshows for class or conference use.
• How to use teaching media and educational technology effectively.

Economic and Management Sciences: The Faculty of Economic and Management Sciences made use of the institution-wide study guide project to scrutinise the nature and character of the guides within this faculty. A detailed set of reports was developed following the evaluation, with the ultimate goal of guiding and assisting lecturers in improving the standard of the quality of the guides in preparation for the impending audit by the Higher Education Quality Committee (HEQC) in 2007.

In April 2005, an inter-faculty forum was hosted by *Mpho Chaka of the Department of Marketing and Communication*, focusing on the frustrations of and the unconstructive learning experiences embedded in the teaching of large classes at UP. There were presentations by lecturers from the Faculties of

Visual material for the Child Therapy Centre

Hannelie van Blerk at Studio Med (Health Sciences Faculty) developed visual material consisting of nine A3 posters, a bookmark design, a brochure design and a business plan cover design for the Child Therapy Centre.

The client gave the following feedback on the event where the visual material was used:

"The Child Therapy Centre was nominated in the category Specialist Hospital. We were one of the finalists which exhibited on 26 and 27 October 2005 at Emperor's Palace during the Gauteng Health Summit. External judges evaluated all the projects. We won a first prize and a monetary prize for our clinic!! Your work was of the highest quality and attracted much attention. The new CEO of Tara Hospital requested your details as she would like to make use of your services."

> - *Thank you from*
>   *The Child Therapy Centre*

The Department of TLEI supported lecturers in the preparation of posters and other material for the 2005 Faculty Day at the Faculty of Veterinary Sciences. **Estelle Mayhew'**s posters won first and second prizes for her clients.

Dr El-Marie Mostert, Linda Venter, Prof Morkel Terblanche, Deputy Dean, Prof Nick Kriek, Dean and Estelle Mayhew at the Faculty Day, Veterinary Sciences, on 15 September 2005

1st prize:

Just wanted to really thank you for the beautiful poster ("Verification of parentage in African Wild Dog packs shows multiple parenity") and for the prize I won thanks to you. It was by far the most beautiful one.

> - *Thank you from*
>   *Veterinary Wildlife Unit*

2nd prize:

I would just like to inform you that one of the posters ("Ultrastructural features of the ductuli efferentes of the ostrich (Struthio camelus)") you designed for the 2005 Faculty Day at the Faculty of Veterinary Science, and which was presented by Dr Peter Ozegbe, was chosen as the second best poster on display. This is a wonderful achievement which I believe reflects your remarkable talents as an artist and graphic designer. May you achieve even more success in the year ahead.

> - *Thank you from*
>   *Convenor: Faculty Day 2005*

Gaby Pretorius *Johan Slabbert* *Liana Venter*

Sigi Dannheimer *Hannelie van Blerk* *Estelle Mayhew*

Award from the School of Public Management and Administration

In November 2005 **Gaby Pretoriu**s was awarded a "Special Contribution Award" certificate and trophy for her contribution to the field of e-learning in the discipline of Public Administration. The School of Public Management and Administration (SPMA) presented her with the award at their end-of-year function.

Prospective Students CD

Each year TLEI produces a Student CD and a Prospective Students CD, which are designed and developed by **Johan Slabbert and Liana Venter**. The Student CD provides support and resources for students in using the electronic learning environment and the Prospective Students CD includes year book and syllabus information for prospective students. At the Excellence Awards at the Unitech Congress in October 2005, the University of Pretoria was awarded first prize in the category e-newsletters and e-brochures for the Prospective Students CD.

Poster for the Paediatric Oncology Ward

The Paediatric Oncology Ward at the University of Pretoria was entered in the Gauteng Department of health Khanyisa awards for service excellence 2005, in the category of regional district hospital. **Sigi Dannheimer** created a poster which formed part of the exhibition at the Gauteng Health Summit, where the finalists had an opportunity to promote their projects on 27 - 28 October 2005. The poster will be put on permanent display in the ward.

This is to inform you and give some feedback on our proposal and your poster for the paediatric oncology ward, we did in fact win!

I think largely due to your poster thank you, everybody was very impressed.

– Thank you from
Paediatric Oncology

Economic and Management Sciences, Humanities and Education. A direct result of this event was the launch of a formal survey targeting a purposive sample of teaching staff. The following aspects were evaluated by means of a questionnaire:
• the administrative load accompanying the class size;
• the effect of the class size on their ability to complete the syllabus;
• the effect of the class size on the quality of their teaching;
• the effect of the class size on student learning;
• the effect of the class size on the quality of their assessment; and
• the effect of the class size on their attitude to teaching.

An induction programme for novice lecturers was presented during 2005 to address the immediate needs of a group of expert internal auditors who started lecturing at UP with the permission of the Chartered Accountancy Board. These novice lecturers attended a three day workshop on lesson presentation. The ultimate goal was to establish a peer learning community amongst them to sustain their professional growth as UP academics and educators.

Natural and Agricultural Sciences: TLEI presented a talk on how teaching Mathematics to large classes may impact on the process of Mathematics learning, as part of an initiative to address problems associated with large classes at UP. Appropriate teaching initiatives that may aid in the attainment of specific competencies identified as outcomes for pre-graduate Mathematics Learning, were discussed. Workshops on Proficiency-based Learning, Promotion of Active Learning and Developing Effective Study Guides in the Sciences were presented at different departments to promote best practice in teaching.

Electronic learning resources for Animal Anatomy and Physiology (*Department of Animal and Wildlife Sciences*) were developed from video tapes of dissections. The videos were shown prior to the commencement of practicals and were made available on CD to the students for revision purposes.

A student feedback instrument was developed for the winter / summer school for Biochemistry practicals. The instrument evaluated both the student experience of learning in the physical laboratory as well as learning facilitated with simulations. A tutor project was commenced in collaboration with the Department Chemistry with the aim of providing integrated sustainable learning support in both theory and practical sessions.

Theology: During 2005 the Teaching and Programme committee, under the chairmanship of *Prof C Wethmar,* was actively involved in the re-curriculation of the BTh-degree. The current four-year BTh-degree will be divided into a new three-year BTh – and a further BTh(Hons)–degree. The micro-level sub-committee (*Proff P van der Merwe and E de Villiers)* aligned the learning outcomes to achieve coherence within the subjects of the BTh-degree. Under the co-ordination of *Dr G de Villiers*, a web page (www.teo.co.za) is used successfully to communicate and inform the Faculty, church and society on current theology initiatives, activities and actuality perspectives.

Law: After the Faculty of Law's external evaluation in 2004, it embarked on various initiatives in order to address shortfalls and areas for improvement identified during the evaluation process. In terms of teaching and learning the main focus areas included the improvement of pass rates and throughput rates, optimisation of the tutor system, skills integration into the LLB curriculum and development of lecturers' teaching practice. In addition a project was launched to develop generic learning outcomes for the LLB curriculum. The main aim is to ensure that adequate progression is built into the curriculum as students advance from first year to fourth year. The Faculty of Law furthermore participated in University-wide initiatives including the study guide review.

Telematic Learning and Education Innovation

The core focus of e-education is the skilful and appropriate integration of various information and communication technologies, including the worldwide web (WWW), interactive multimedia delivered on CD-Rom and computer-assisted assessment.

Instructional Design

The Department of Telematic Learning and Education Innovation (TLEI) follows a team approach to instructional design. Together with the Department's educational consultants and academic staff members in the faculties, the instructional designers decide on the combination of instructional methodologies to be used within the flexible learning model. Once a project has been approved, a team is constituted which is made up of a project leader (normally the programme coordinator), project manager, lecturer (subject matter expert), instructional designer, educational consultant, information specialist, graphic designer and other media experts. The instructional designer then designs, develops and delivers a range of learning materials, utilising the most effective media and technologies for the specific learning purpose.

Web-supported Learning

Online learning via the Internet is one of the delivery modes used, where appropriate, in a flexible learning model. Traditional face-to-face classroom sessions are combined with online interaction, communication, learning facilitation and assessment activities. The philosophy is to use the Internet to optimise and support student learning. The University implemented the Learning Management System WebCT in 1998 and continues to promote its support and expansion.

The number of undergraduate modules supported by WebCT grew by an additional 189 modules while 120 new postgraduate modules were created during 2005. This brought the total number of modules in WebCT to 2 400. A total of 30 CE@UP courses were supported within WebCT.

For various reasons, such as sustainability and reliability of the platform under an ever-increasing load, a task team considered various options for the future of the Learning Management System at UP. In 2005, the recommendation of TLEI to replace WebCT Campus Edition with WebCT Vista was accepted by top management and WebCT Vista 4 was purchased. WebCT Vista is a powerful enterprise application, which runs on an Oracle database. This offers various technical advantages that were not possible with previous versions of WebCT. During June/July 2005 a planning workshop was facilitated very professionally by WebCT Inc. to plan the implementation of the new version.

WebCT Vista will be implemented in three phases:
Phase 1: Pilot project I which will be implemented during January to June 2006;

towards ensuring that such students and staff realise their potential, the group meets every term to share and monitor progress on individual initiatives aimed at improving accessibility (e.g. accessibility to buildings; residences; parking; learning material; technology; learning facilitation support; etc.).

In an effort to sensitise academic staff to the services of the Disability Unit and TLEI, a seminar was organised in the last term of 2005. The Disability Workgroup endorses good practice with regard to improving access to and progress within the University.

Diversity

A draft document on diversity titled "Creating an Inclusive Community Network" was finalised and submitted to senior management. This document grew out of an effort within TLEI to initiate dialogue and action on diversity within the university working environment. It contextualises the dynamics of diversity and presents an overview of diversity as an overarching element of an inclusive community.

Collaboration with the Academic Information Service (AIS)

In 2005 TLEI embarked on an initiative to collaborate with the AIS in the design, development and presentation of effective training materials on topics such as the use of electronic databases, how to request inter-library loans and other regular training interventions offered by the AIS to their clients. A process was designed and initiated to evaluate existing training materials and practices and to extend these with regard to both expected behaviour changes in AIS users, as well as the context within which the AIS is used, for example, undergraduate, postgraduate or academic staff. In 2006 TLEI will continue to be involved in the support, design and facilitation of such interventions, as well as applicable training for AIS staff members, when necessary.

E-learning

E-support office

An E-support office (E-learning helpdesk) was established during 2005 to provide the following centralised support services to users:
• quick solutions and immediate support to lecturers, support staff and students with respect to the e-learning systems at UP;
• E-administration training to enable staff to utilise the existing UP e-learning systems, in order to improve their own efficiency and enable them to provide assistance to users to function independently;
• just-in-time training to assist lecturers at their desks with basic Lecturers Online and WebCT functions;
• customised training of lecturers and support staff on specific needs in Lecturers Online or WebCT at a time and venue of their own choice.

Future plans of the E-support office include implementing a service management system which will provide a consistent service to users, accessible via a single point of access. Services will then be measurable and automated request handling and problem resolution will be beneficial in improving workflow. It is expected that the system will provide valuable project tracking information needed by project managers, as well as statistics which may be helpful in identifying trends and problem areas.

Postgraduate Education

The completion indices for all postgraduate programmes were determined during the year under review, which confirmed the concerns of many faculties. An institutional-wide programme to train newly appointed lecturers in postgraduate supervision did not enjoy the necessary support, though some faculties still opted to source such programmes externally. Negotiations to survey postgraduate students' perceptions on the quality of the their study experience was supported and will be launched on the web in 2006.

Educational Technology

Wireless Data Projectors

There is a strong momentum towards wireless communication between various types of equipment. In the light hereof, wireless data projectors were installed that communicate with computers through the 802.11 b/g protocol. It is foreseen that after this pilot project, future acquisitions and installations will focus increasingly on wireless enabled systems.

IP-based Video Conferencing

Due to the lack of broad band in South Africa, video conferencing nationally is still based mainly on the more expensive and older ISDN technology. Contrary to this, internationally, universities and other institutions use IP (Internet Protocol) video conferencing systems. During 2005 the Department experimented with IP-based video conferencing, by reserving some bandwidth.

A number of new initiatives were launched within the various units of the Department of Telematic Learning and Education Innovation (TLEI) during 2005, which contribute to promoting excellence in teaching and learning at the University of Pretoria.

Education Innovation

Teaching Large Classes

Increasing class sizes and the resultant unmanageable lecturer: student ratios (second and third year classes of up to 700-900 in size) have led to much frustration, higher than normal staff turnover and possible declines in quality in such teaching, learning and assessment situations. The topic was discussed at an Education Forum organised between representatives of three faculties (Economic and Management Sciences, Humanities and Education). Smaller workshops and discussions on ways to apply active learning as a tool in large classes were held. A web-based survey was launched to determine lecturers' perceptions of the effect of large class sizes on their administrative/logistic workload; the quality of their teaching; the quality of student learning; lecturers' ability to complete the syllabus; and the quality of assessment. The research indicated that lecturers' concerns on assessment quality, students' ability to learn, as well as the administrative and logistical workload are amplified where class sizes exceed 200 – 250 students. This observation is in contrast to a report from BIRAP that concluded that no correlation between student dropout and class size could be established. The concise BIRAP report will be circulated during 2006.

Research Writing

Various requests were received to facilitate research writing and support was given to postgraduate students as well as to research supervisors. It is expected that the need to support research writing will continue to grow.

Study Guides

The quality of study guides is currently a strong focus and good progress was made with this project during 2005. Education consultants of the various faculties have reviewed at least one study guide per lecturer for undergraduate programmes. An external review panel validated the criteria and guidelines for the development and evaluation of the study guides. The outcomes of this review will be made public in a report at the end of March 2006.

Students with Special Needs

A network of stakeholders called the Disability Workgroup was established. Participants are drawn from the Disability Unit - Student Affairs; TLEI; IT; CAAS – student; Occupational Therapy; Head: Residences; AIS, Security Services; Corporate Communication and Marketing and IT Labs. This group is committed to promoting and improving the provision of service for students and staff with special needs. In working

Phase 2: Pilot 2, which will run from July to December 2006; and **Phase 3**: Full implementation of all first semester modules by January 2007 and second semester modules by July 2007.

Ten task teams were constituted to plan and manage various aspects of the undertaking: Project Management, Technical Build, System Integration, Pilot Project, Training and Support, E-asset Management, Teaching and Learning, Communication, Accessibility, and Tracking and Reporting.

Multimedia

Within the UP context, multimedia refers to the use of many different media (sound, graphics and animation, for example) within one programme to achieve a specific outcome. Such a programme is traditionally designed as a stand-alone programme distributed to students on CD-Rom. The content is usually a specific topic within a course or module and the multimedia product supplements and complements other modes of teaching.

The E-education team is experienced in developing different types of multimedia, including tutorials, simulations, case studies and collections of resources (usually visual). The aim is to make each programme as interactive as possible and to engage the

user in active learning.

For more information about the CD-Rom or to purchase a copy, visit www.be.up.co.za/handtherapytutor

Several multimedia projects were completed during 2005 (see details under "Reports"). The design team continues to work on 16 large multimedia projects which are in development. After three years of development, TLEI completed one large multimedia project, developed

in collaboration with *Ms C van Velze*   the modules for this programme

of the Department of Occupational Therapy. This highly interactive program on Hand Therapy consists of two versions, one which functions as a tutorial, while the other consists of a quiz. The CD-ROM is marketed through BE@UP and there is considerable interest in this interactive programme from occupational therapists worldwide.

Another multimedia product, "Maxillo Facial Pathology", was completed in collaboration with *Prof WFP van Heerden of the School of Dentistry, Faculty of Health Sciences*. This project consists of an update of an existing multimedia, which was further expanded to contain 1000 multiple choice questions for self assessment.

The Department of Veterinary Tropical Diseases, Faculty of Veterinary Sciences under the leadership of *Prof JAW Coetzer*, completed five multimedias as part of their support to the MSc (Veterinary Tropical Diseases) programme. In addition,

are facilitated through WebCT. Certain modules are also presented as short courses through CE@UP to veterinarians as part of their Continued Professional Development.

The multimedia CD-Roms are increasingly being marketed and sold to other universities and groups, both nationally and internationally. The team approach with a wide diversity of specialists has made it possible to develop award-winning multimedia of a high standard.

E-testing

The University of Pretoria implemented E-testing during 1993. Since then it has become an integral part of the assessment strategies of many academic departments. Well-equipped computer laboratories are available on the main campus, the Prinshof campus (Health Sciences), Onderstepoort (Veterinary Science) and the Groenkloof campus (Education).

Lecturers incorporate E-testing as part of their assessment strategy because it saves marking time, while allowing large groups of students to be tested regularly. Marks are available as soon as the student completes the test and lecturers receive statistics on the questions to assist them in revising their tests regularly and improving the quality of assessment. The students are positive about this method of assessment, mainly because they receive the results and feedback immediately and because marking is objective.

During 2005 there was an increase in the number of computer-based tests presented in the computer laboratories on the different campuses. A total of 149 843 tests were presented: 50 682 tests were presented on the main campus (Informatorium), 32 988 in the IT labs, 22 388 on the Prinshof Campus and 1 906 at Onderstepoort. A total of 41 879 quizzes were completed in WebCT, a large number of which are used as self-assessment opportunities for students.

The development of the new computer-based test programme, Umfundi, was finalised and the programme was tested extensively during 2005. This included functional testing, de-bugging, security testing and stress testing. Implementation of this system is planned for 2006. Umfundi was developed in collaboration with a local company to replace the current system, Question Mark Designer, which is somewhat outdated and has various constraints. A few unique features have been built into Umfundi, e.g. multiple hot spot questions, the opportunity for students to provide comments to lecturers about specific questions, customisable reports and much more. Other higher educational institutions are interested in Umfundi, since the University of Pretoria is regarded as one of the leaders in the use of computer-based testing.

Staff training in web-supported learning

The Department presents various staff training courses to equip lecturers to manage and facilitate courses in the online environment. All the courses are University of Pretoria priority courses, which implies that there is no cost to academic departments. The WebCT (Basic) High Impact Course is a one-day course offered ten times per year. Lecturers use the basic tools in WebCT and consider the principles of learning model design and online facilitation. The WebCT Intermediate Course is a one-day course offered five times per year, and the two-day advanced WebCT Designer Course is offered twice a year. The latter course equips lecturers to become WebCT Designers and so to assume full responsibility for the entire design and development exercise.

The Facilitation of E-learning Course is an introductory course on the planning and facilitation of e-learning, with particular emphasis on how to make optimal use of the electronic learning environment. The course is based on an experiential learning approach and has both online and face-to-face components. In this way, lecturers experience what it is like to be a student in the online environment. Participants have ample opportunity to practise the skills they need to facilitate learning online, share ideas with colleagues and develop their own preliminary plans for courses they plan to facilitate via the web.

In 2005 a total of 121 lecturers across all faculties attended the WebCT courses, and 32 participated in the Facilitation of E-learning course. Feedback from the participants was used to improve both content and delivery of all the courses.

students from the abovementioned universities may share ideas on their studies. By using the LUVIT learning management system, students communicate with one another and, through co-operative learning, improve the quality of their studies and research capacity.
Professor Sølvi Lillejord *(Dept. of Education and Health promotion, University of Bergen, Norway)* and Dr A Hattingh (*Dept. of Curriculum Studies, University of Pretoria, South-Africa*) are the project coordinators.

The project was formally established in 2001 with a total budget of NOK 4,000,000 (equivalent of US$ 620,000). It was concluded in August 2005 with a workshop and conference on "Knowledge Production and Higher Education in the 21st Century". Efforts are however being made to extend the project for another four year period, starting in 2007.

The Prince Leopold Institute for Tropical Medicine (ITM), Antwerp, Belgium

TLEI has been involved in supporting the *Department of Veterinary Tropical Diseases* (Faculty of Veterinary Science) in developing a new masters' degree which is being delivered predominantly online. Students attend contact sessions for the purpose of completing practical and laboratory work required for completion of the programme. *The Department of Veterinary Tropical Diseases* is working in collaboration with faculty from the Prince Leopold Institute for Tropical Medicine in Antwerp, Belgium.

TLEI provides support for faculty members from this institution. Academic staff members have attended training courses in both South Africa and Belgium. Many of the modules developed for this master's programme will also be offered as online short courses for continuing professional development. 8 modules were presented during 2005 and another 20 modules will be presented to students from all over the globe during 2006. Additional

electronic resources in the form of five multimedia CD ROMs as well as several CD ROMS containing video material were developed and distributed to the students.

There is considerable interest in this new degree from international students and it is clear that the Faculty of Veterinary Science of the University of Pretoria is internationally one of the trend setters in the field of electronic veterinary education.

University of Dortmund: Hochschuldidaktische Zentrum

The Department is one of the important players in European eCompetence initiatives for academic staff in higher education. UP is one of two non-European universities to contribute significantly to this project.

In the current implementation of the Bologna Declaration in European higher education, the control measures for learning are shifting from an input to an output orientation. In terms of learning outcomes, competence profiles are replacing more and more the traditional, discipline-based body of knowledge. Besides knowledge-based learning outcomes, the focus is also on skills, motivation and attitudes, which enable an individual to act in complex situations in a responsible and suitable way. This is the wider thematic context in which the concept of eCompetence is discussed within this project.

The research focus has progressed from the data collection to the in-depth analysis and interpretation thereof. The purpose is to identify specific patterns of eCompetence development activities, which may be interpreted with respect to consistency and impact in similar ICT change contexts at other universities.
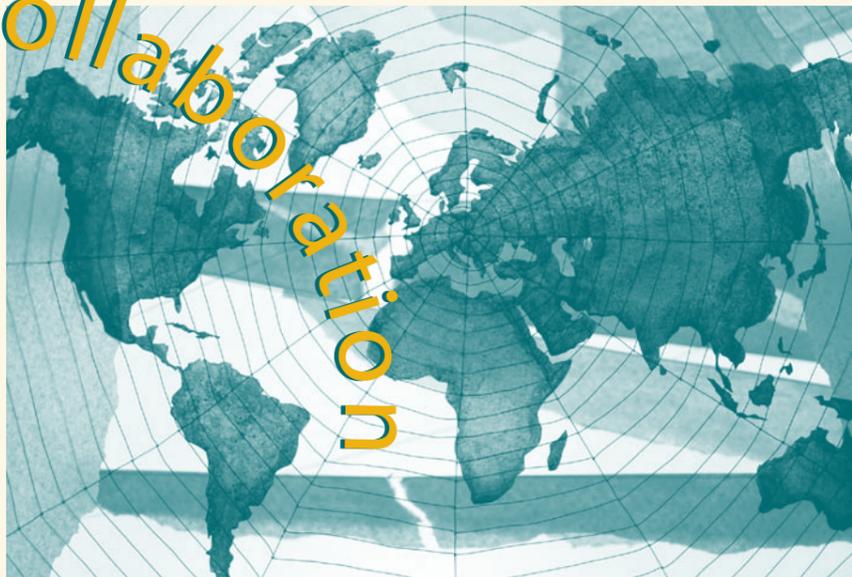
- International competitiveness is one of the University's important strategic drivers. Interaction and collaboration at international level is therefore strongly encouraged. In this respect, TLEI is involved in a number of projects aimed at providing technical and educational support to the international academic community.

Imperial College, London

A scholarship programme and Partnership Development Project is in place between the Imperial College London (UK) Distance Learning Programme (ICL-DLP), Wye campus and the Department of Agricultural Economics, Extension and Rural Development (LEVLO), University of Pretoria (UP).

The Commonwealth Scholarship Commission (CSC) provides Commonwealth scholarships by distance learning to eligible students. Students from Commonwealth countries within the Southern Africa Development Community (SADC) were invited to apply for full scholarships to study an MSc offered by distance learning. The Partnership Development Project includes development arrangements with UP to provide local support to the Scholarship programme, in terms of academic (LEVLO) and technological and educational (TLEI) input. Scholarship support was received from the CSC in 2003 and 2004, resulting in a further 50 scholarship students from the SADC region commencing studies in the 2004 and 2005 academic years. In early 2005 a fourth proposal was submitted to the CSC for further scholarship awards and partnership support.

A proposal was submitted in 2005 to the Centre for Distance Education (CDE), University of London, for a Teaching and Research award. The proposal sets out a plan to be implemented over two years, for researching and testing the use of suitable m-learning approaches within the Southern African context. The aim of the project is to develop an educational model for delivery and support of postgraduate distance learning in Southern Africa that incorporates m-learning. The outcomes of the project will also have broader regional relevance, and will be of particular interest and relevance to TLEI.

University of Bergen, Norway

A goal of the Norwegian Council for Higher Education's Programme for Development Research and Education (NUFU) is to further competence in research and higher education in developing countries. The University of Bergen, in Norway, invited six universities in Southern Africa to participate in this project: the University of Namibia, the University of Botswana, the University of Zimbabwe, the University of Zululand, Universidade Pedagogica (Maputo, Mozambique) and the University of Pretoria (Faculty of Education and TLEI).

The aim of this project is to provide a discussion platform through workshops, seminars, conferences and joint publications where doctoral

Student Training in Web-supported Learning

Student training and orientation is necessary to enable students to take full advantage of the online learning management platform. The compulsory undergraduate Computer Information Literacy (CIL) courses are now supported by WebCT, which means that first year students obtain the necessary training to access and utilise the platform.

The modern generation of students appears to be more proficient in computer skills than was previously the case, although postgraduate students often still require additional training and orientation. For this purpose, the Department continues to offer customised student training sessions in WebCT, in which the new role of the online student is discussed and hands-on practice in accessing and using online courses is facilitated. Further support for students is provided in the form of a Student CD-Rom, which is distributed and partially sponsored by the Brainbooks bookstore on the main and Groenkloof campuses.

Student Feedback

Quality Management philosophy includes continuous improvement of processes and products, as well as measuring client satisfaction. Student satisfaction was measured at the end of each semester by means of the online WebCT Experience survey.

At the end of 2005, 150 students completed the WebCT survey. A fairly high proportion of respondents (52%) have their own computer at home, but 37% (down from 50% in 2004) of students find it difficult to access a computer on campus when they need one, in spite of the expansion of computer laboratories. Forty two percent of students have difficulty or can never find a printer on campus when they need one (down from 45% in 2004). Eighty eight percent of respondents found the opportunities for 'anywhere; anytime' learning on the web to be convenient.

The feedback from the surveys indicates that students generally welcome the web-supported environment. They request more courses to be supported online and that lecturers should make better use of the functionality of the system.

Electronic Student Academic Portfolio (eSAP)

The Electronic Student Academic Portfolio (eSAP) creates a digital record of learners' achievements throughout their studies. The first phase of eSAP was deployed in July 2005 in the Faculty of Health Sciences. The following functions are currently available: creating comments for use during assessment, development and use of rubrics, creating and using groups, setting up assignments (this function has many sub-functions) and assessment of assignments. As students complete their assignments within the system, a portfolio is created for each student which represents his/her work throughout their studies at the University of Pretoria.

Since July 2005, several academic staff members have employed the system as part of their assessment strategy. A training manual was developed by TLEI in 2005 to assist academic staff in the use of the system. During 2006 a formal training programme for staff members will be conducted in June and November as a UP Priority course. Training for departments and students wishing to use the system is also presented as the need arises. During 2006 further attention will be given to the development and implementation of the next phase of the system.

eCPCES (Electronic Comprehensive Patient Care and Education System)

This system will replace the School of Dentistry's paper-based, standardised student training protocol for Patient Clinical Examination, Diagnosis and Treatment Planning. The technical development of the system was completed during 2005, except for a few smaller adjustments

which still require attention. End-user testing was conducted during 2005 and revealed that end-users are comfortable with the use of the system. The few recommendations made by the users will be addressed by the development company, Executive Connections International Pty Ltd, during 2006. The Department of Information Technology will complete the installation of the computers at the dental chairs in the ward during early 2006. Once this is complete, the system can be made available to staff and students. Future plans for 2006 include the development of an e-tutor component for the system. This e-tutor will be developed as a joint venture between the Department of Restorative Dentistry and TLEI.

Services at satellite campuses

The Department provides core services on a decentralised basis to the satellite campuses. There is a team of 13 TLEI personnel at the Prinshof campus (Health Sciences) and four personnel members at Onderstepoort (Veterinary Science). Some support, currently limited to Educational Technology services, is also provided on the Groenkloof (Education) and Mamelodi campuses.

There are two outcomes of this decentralisation. Firstly, there is greater awareness of the services provided by TLEI and there has been a steady increase in requests for various services not previously utilized by the personnel on the satellite campuses. Secondly, lecturers appreciate not having to travel to the main campus in order to access services.

The graphics, video and photography sections continue to provide specialised services to all the departments at the University. Thanks to the spectrum of technological options that are becoming available and also more affordable, visual and audio stimuli can be utilised in the didactic process to enhance learning. TLEI's creative experts assist in capturing concepts in audio and/or visual forms which range from watermark images to animations, voice-overs and other forms of sensory stimuli.

Graphic services include the design of pamphlets, brochures, advertisements, exhibition material, electronic presentations, posters, transparencies and slide shows, as well as the layout of reports and publications. Assistance with the provision of graphics for web sites, presentations, animations and course material, as well as the production of graphics for multimedia and WebCT courses is provided. In 2005 two posters that were designed and produced by staff of the Graphic Department in conjunction with the subject expert, were selected as winners at international conferences.

Photographs are used for instructional, research and promotional purposes and range from photographs of scientific equipment and specimens to portraiture. Digital photography is also done, which is used for both web and multimedia programmes. Key services offered include studio and location photography, copying of artwork, illustrations and books, duplication of slides, computer-generated slides, macro photography, stereo microscope photography, scanning of slides and photographs (digitising) and writing them to CD, manipulation and restoration of photographs, film processing (slides, colour and black and white negatives), and production of photo-quality A4 and A3 prints on various grades and weights of paper.

The formats include 35mm and 120 slides and negatives, in colour and black and white and digital images (Nikon D1) at 300dpi in *.tiff or *.jpg format. Video services include video production,

tape duplication services and the conversion of video to electronic format (MPEG), as well as the provision of audio recording and editing services

Services involved in a typical video production include script writing, filming, editing (video and audio) and duplicating the final product. Typical examples of where these services might be needed include promotional videos (product or service), information videos, educational videos and the filming of events.

Video tape duplication services include making multiple VHS copies from VHS, DV, DVCam, Betamax, Video8, Hi-8, Betacam and U-matic, as well as conversions from NTSC VHS(American format) to PAL VHS (South African format) and from PAL to NTSC. Multiple copies from audio cassettes are also made.

Conversions of video to MPEG include the digitisation of video footage for use in multimedia programmes, PowerPoint presentations, for use on the web and for creating durable DVD's in order to preserve valuable footage.

Audio recording and editing services cover general sound recording, audio recording, the recording of audio onto CD, transferring LP records onto CD and the writing of all recordings to CD.

Advances in technology make it possible to include increasingly sophisticated multimedia (video, audio, animation, digital photographs, complex graphic images) in learning material provided to students. This promotes visual literacy and enhances the learning experience.

The aim of the mapping exercise was to establish a platform from which these services can strategically be coordinated and proactively directed towards student risk groups. Undergraduate dropout remains a major concern. During 2005 an exit interview instrument was developed with the aim of gaining insight into the reasons behind student drop-out. Since many role players are involved during termination of students' studies, several workshops were held in order to identify key points at which exit interviews can be done. Efforts to define both the wide range of intuitive processes students follow to terminate their studies, as well as the institutional processes that are in place for this purpose are still ongoing. The ultimate goal is to implement exit interviews on a sustainable level.

Towards an Assessment Policy

The gradual development of assessment policies on national and institutional levels required the University of Pretoria to reconsider its own policies. During 2005 a conceptual framework was developed within which an assessment policy could be developed for the University. The framework is based on key assessment principles and afforded the task team to integrate and align relevant external and UP policies, regulations, guidelines and best practices in assessment of student learning. The framework serves as an integrated platform from which relevant external and internal policies can be sourced. 2006 will see the emergence of a concise assessment policy.

Student Feedback on the Quality of Education

Student evaluation mechanisms to enhance the quality of teaching presented at the University were improved and extended. Research focused on two areas:
• the development and subsequent evaluation of a new student feedback questionnaire (undergraduate education with

respect to contact sessions and web learning opportunities); and
• the development of feedback mechanisms on the quality of practical training.

The third phase of the ongoing evaluation of the student feedback questionnaire was completed in 2005. The research during 2004 resulted in a 36-item instrument; the concept questionnaire was applied to students enrolled for the same modules used during the 2003 analysis. The data was once again subjected to a factor analysis and reliability indices determined for each item. The validated instrument now consists of a total of 40 items, of which 36 are compulsory and four optional (to be formulated by a lecturer). It will be administered as from the second semester 2006.

With respect to optimising and gaining feedback on the quality of practical training in relevant faculties, attention was focused on three departments. In the Department of Communication Pathology, the final version of their feedback instrument was implemented and data capturing and reporting was automated. The Department of Chemistry implemented a comprehensive tutor system to enhance the quality of their practical training. The success of this initiative will be monitored during 2006. R & D: University Education played an instrumental role in the development of both these initiatives. The Department of Drama identified key constructs on which they require feedback during a workshop. These constructs will form the basis for the development of a feedback instrument that suit their unique needs.

Since the establishment of the Department, the staff members of Telematic Learning and Education Innovation (TLEI) have become increasingly involved in education-related research projects of a diverse nature. The Unit for Research and Development has the following responsibilities:

• Task-specific research within TLEI: internal activities that typically form part of this focus include identifying, prioritising and coordinating focal research areas relevant to TLEI; promoting, supporting, facilitating and coordinating research projects in TLEI; and taking responsibility for special research projects on behalf of TLEI.
• Proactive and reactive University-wide action research aimed at the promotion of quality educational processes and products.
• Intra-departmental Co-ordination of Research Activities.

Action Research and Development has become a household activity in TLEI. Several projects are registered and active. These projects are either directed towards the enhancement of TLEI-related support functions, processes and products, or aimed at broader institutional development.
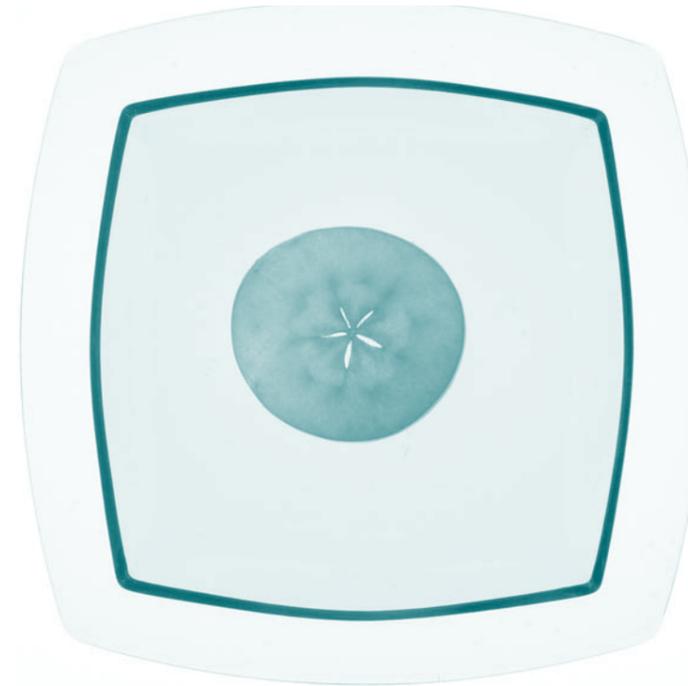
Study Success

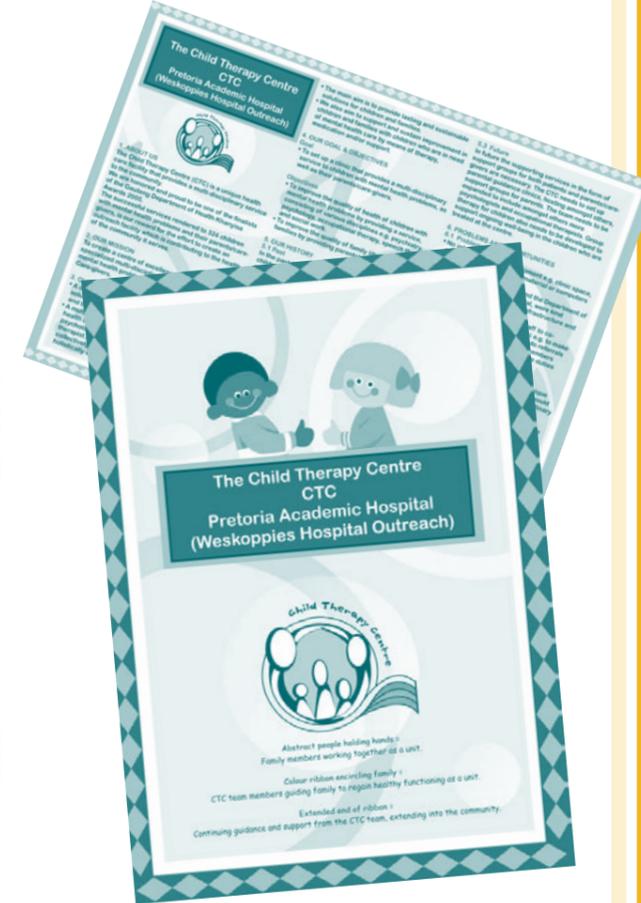The year under review was characterised by an evolving awareness of the strategic importance of study success (student attrition, retention and throughput rates), with particular reference to undergraduate education. A number of projects that were originally initiated as stand-alone research projects gradually converged to form key elements of a coherent strategic plan to address study success in respect of the University's primary client: its students. An overview of the research done in this area was presented to the UP Executive during 2005.

Study success profiles were developed for each faculty, once again confirming the trends identified in previous years. These profiles were segmented according to school, department and programme, and included analyses at module level. Several risk groups were identified. The identification of risk modules (those with a significantly higher attrition and lower pass rates) led to a number of operational interventions in the respective faculties, such as winter and summer schools and the establishment of tutor systems.

During 2005 a comprehensive mapping exercise of all student services and academic extension programmes was completed. The aim was to identify those student services and programmes that, in whatever way, might support the aims of a university-wide study success strategy.

The importance of research and development in higher education is evident. Changes in the higher education environment, combined with the fact that education innovation needs to be based on educational research, have emphasized this need.

Photograph for: Unit for Quality Assurance

Poster and brochure design for the Child Therapy Centre. By Hannelie van Blerk, Studio Med

Poster for The Paediatric Oncology Ward, entered in the Gauteng Department of Health Khanyisa. By Sigi Dannheimer, StudioMed
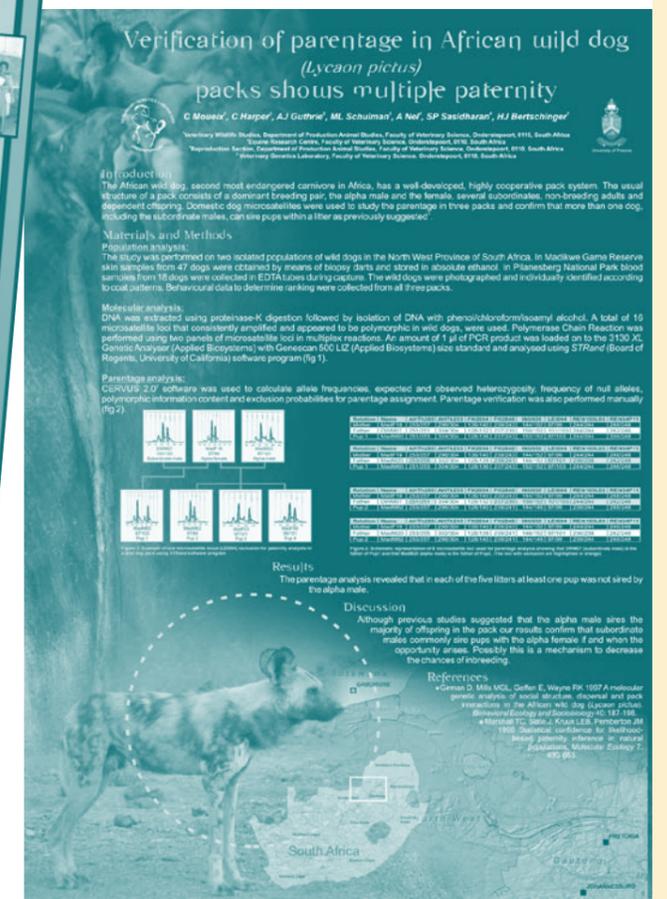
Wild dog poster for Veterinary Wildlife Unit By Estelle Mayhew, StudioVet

The following initiatives were undertaken in 2005:
- A number of lecture halls were upgraded and equipped with fixed data projecting facilities. At present a total of 175 lecture halls are equipped with fixed mounted data projectors (50 new installations during 2005). The total number of portable data projectors made available to departments is 238 (15 during 2005).
- State of the art audiovisual and control systems were installed in the new Law Building for use from January 2005.
- A Sennheiser translation and conference system was installed in the Senate Hall, making it possible for 140 delegates to listen to the language of the floor, plus two translations.
- Videoconferencing facilities were provided for 56 hours.

mLearn 2005 International Conference

Mobile learning (m-learning) is a natural extension of e-learning and has the potential to make learning even more widely available and accessible than in existing e-learning environments. In the light hereof, the Department committed itself, together with sister departments from UNISA and TUT, to hosting the 4th International Conference on Mobile Learning in Cape Town from 24-28 October 2005. From TLEI, Johan Freysen was a member of the steering committee and programme committee, while Tom Brown was co-chair of the conference, together with Herman van der Merwe from TUT.

M-learning pilot projects

The role that communication and interaction play in the learning process is a critical success factor. M-learning offers opportunities to optimise interaction between lecturers and learners, among learners and among members of COPs (communities of practice). Wireless and mobile technologies also make it possible to provide learning opportunities to learners that are either without infrastructure for access (for example rural

learners) or continually on the move (for example business professionals).

Good progress was made with several m-learning pilot projects:
- The use of personal digital assistants (PDAs) in the clinical assessment of medical students in the Faculty of Health Sciences has been very successful and shows positive results.
- The use of laptops and PDAs in a wireless network environment for postgraduate students in the Faculty of Engineering is in progress.

The SMS project in the three paper-based distance learning programmes of the Faculty of Education [i.e. BEd (Hons), ACE (Education Management) and ACE (Special Education Needs)] is a world first. Support is offered to students in rural areas where there is little or no access to e-learning. Although less than 1.5 % of the 9 780 students (2005) have access to the Internet, nearly 98% of them have mobile phones. The use of cell phones, especially SMSs, in the three programmes expanded during 2005 to include academic support (6,150 SMSs) in addition to administrative support (101,057 SMSs). The four categories of academic support are:
- brief academic instructional messages;
- an interactive voice response based upon FAQs from students;
- SMS quizzes;
- SMS question and answer system on a given pre-selected topic.

This pilot project provides an example of how mobile technologies may be successfully used to provide learning support to rural distance learning students in Africa, especially because these students do not have access to the Internet. Few people thought that e-learning would have an impact in rural areas. The infrastructure is sometimes so poor in these areas that the nearest post office can be more than 60 kilometres away. M-learning has brought e-learning to the rural communities of Africa - to learners that only a few years ago, would never have imagined being e-learners. Africa is leapfrogging from an unwired, minimal e-learning infrastructure to a wireless m-learning infrastructure.

The Department does not have any established regional learning centres in the true sense of the word, but it manages UP service points in Pretoria, Witbank, Nelspruit and Polokwane, where the following services are provided:
- administrative support (enquiries, applications, courier services, photocopies, e-mail, fax, etc.) with a facilitator on site;
- test and examinations;
- video viewing facilities; and
- occasional tutorials on request.
Venues are hired from other higher education institutions, e.g. Unisa, Tshwane University of Technology and colleges.

Off-campus Examinations

Postgraduate students are not all able to be on campus as full time students and an increased number apply to do exams nearer to their home and workplace. In the light of closer partnerships between tertiary institutions, off-campus examination logistics have become a collaborative enterprise between UP, Tshwane University of Technology (TUT) and Unisa. The MEM, MPM, MBA, MOT, BCom (Aviation) and MCom (Taxation) programmes, programmes of the Centre for Augmentative and Alternative Communication (CAAC) and the departments of Social Work, Nursing, African Languages and Afrikaans make use of the off-campus examination infrastructure.

Decentralised off-campus examinations (both national and international) have increased as shown in the table.

2000	2002	2003	2004	2005
798	1 274	2 191	2 317	2357

Discontinuation of Partnerships with External Providers.

The teach-out agreement between Lyceum and the University of Pretoria officially came to an end on 31 December 2005. To provide the pipeline students with sufficient assessment opportunities, the University arranged a Chancellor's examination for students with one or two subjects required to complete their qualification. The number of students who graduated from these partnership programmes up to December 2005 was 22 670.

The Unit for Distance Education

The Unit for Distance Education at the Faculty of Education was established to replace the former partnerships with external providers. Three new world-class programmes for distance education of teachers were created. These are mainly paper-based, supported by contact sessions. The current student numbers exceed 10 000.

To enable the University to provide education for the innovation generation and to make UP the University of choice, educational technology on all the campuses of the University should be of the highest standard and always in proper working condition.

The University of Pretoria (UP) has established service points to provide access to information, administrative services, tests and examination opportunities for off-campus students.

Telematic Learning and Education Innovation