PERSPECTIVES ON WEB-BASED INSTRUCTIONAL TECHNOLOGY METHODOLOGIES IN TEACHING POST-GRADUATE PROGRAMMES WITH SPECIFIC REFERENCE TO THE MPA INTERNATIONAL ADMINISTRATION COURSE AT THE UNIVERSITY OF PRETORIA (SA)

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Globalisation ... is perhaps the most profound source of international transformation since the industrial revolution ... The adjective "global" refers less to a place than to a space defined by electronic flows and a state of mind.

Kofi Anan, UN Secretary General

ABSTRACT

outh Africa's emergence into the global sphere after years of isolation necessitates a re-consideration of its political, economic development and social political. cies and strategies. Public servants are presently required to take cognisance of international developments, rather than only domestic activities when engaging in policy management. International political manoeuvrings, trade agreements and social exchanges, call for institutions of learning to design programmes of International Administration to significantly address these issues. In addition, the employment of state of the art technologies as instruments of development, justifies thorough scrutiny as well. The University of Pretoria acknowledges the importance of utilising information technology in teaching methodology as well as its impact thereof on globalisation and international administration. The redesigned International Administration programme at the University of Pretoria has recently introduced a web-based MPA in International Administration with the aim at enhancing candidates' information technology literacy skills whilst at the same time affording the convenience of pursuing their studies from remote locations. The redesigned programme in particular, focuses on the specific needs of the adult learner, thus following the principles of an andragogical learning approach.

INTRODUCTION

In this day and age no country can view itself as an island. All countries throughout the world, great and small, in various stages of development, experience the effects of globalisation. This also applies to the African continent and South Africa (Venter, 2000: 3). The term "globalisation" refers to an ideology and process of a borderless world, evolving from a realisation that nations and countries are increasingly becoming interdependent. This interdependence covers the full spectrum of political, socio-economic, scientific and technical issues. Pressure on scarce resources, poverty, underdevelopment, human rights violations, economic recession, refugee migration, uncontrolled capital flow and environmental deterioration (ozone problems and global warming), amongst others are all matters which necessitate some form of regional or international co-operation and interdependence between countries.

Although the term "globalisation" was phrased almost five decades ago, it is now more than ever accepted as a *fait accompli*. In principle, however, it does not imply that all countries of the world have been adequately prepared for the global involvement, or derive the same benefits from international and supranational bodies (i.e. the United Nations or the European Union).

In this paper, South Africa's emergence into world affairs is explored. In addition, views on current instructional methodologies to teach International Management and Administration, within the tertiary context, are shared, as well as suggestions made on how tertiary educational institutions could redesign curricula on International Management and Administration, in order to capacitate South African public officials to benchmark executive activities against international practices and requirements.

SOUTH AFRICA AND THE CONTINENT OF AFRICA IN A GLOBAL CONTEXT

n historical retrospect, many African countries obtained independence from colonial powers since the 1960's. Increased population, civil war (i.e. Rwanda, Uganda & Zaire), internal conflict and most of all a lack of infrastructure as well as an absence of administrative and governmental expertise have had a detrimental effect on their ability to make the transition to globalisation at the same rate as more developed countries in the northern hemisphere. The experience of African countries pertaining to globalisation may therefore differ considerably from those of European and northern American countries (Thornhill. 2000:2).

Despite the somewhat grim picture described above, South Africa serves as an example of a developing African country, which since 1994 has started restructuring its economy to compete globally. Although for many years highly developed in terms of scientific and technological development, South Africa prior to 1994 was internationally isolated due to its policy of Apartheid. Sanctions had been introduced resulting in limited interna-

tional trade and political liaison. South Africa became "unacceptable" in terms of international standards and lost its membership in the United Nations, as well as its various agencies. South Africa was further unwelcome as a member of the Organisation of African Unity (OAU) and its membership in the Commonwealth was cancelled. This set of circumstances impacted detrimentally on the practice and science of South African Public Administration, which curtailed the development and expansion of International Management and Administration programmes.

Post 1994 trends therefore truly reflect a re-entering of the international arena into South Africa. The country took up membership in *inter alia*, the United Nations, Commonwealth and the Organisation for African Unity, soon to become the African Union (Thornhill, 2000:2). South Africa was also afforded the opportunity to obtain access to funding by the World Bank and the International Monetary Fund, as well as to obtain access to grants from various donor organisations such as the European Union, the Dutch Government, USAID, AUSAID, the Open Society, the Ford Foundation and the Kellogg Foundation.

The fact that South Africa wishes to partake and compete in the global political arena and marketplace and therefore needs to increase the effectiveness and efficiency of its human resources, is widely acknowledged. If the envisaged percentage of sustainable growth, as targeted by the Government is to be attained, the Reconstruction and Development Programme-ideal which is the optimal development of South Africa's human capacity, should be pursued vigorously. Human resources development with the capacity to meet the challenges brought about by globalisation, may be expedited by employing current instructional technologies.

GLOBALISATION AND THE IMPROVEMENT OF SOUTH AFRICA'S HUMAN RESOURCES CAPACITY

ith its acquired status in the international community, South Africa, since 1994 invested millions of Rand in development projects and social upliftment programmes, the bulk of which came from international organisations and donor funding. Government institutions, Non-Governmental Organisations (NGO's) and Civilian Based Organisations (CBO's) participated in distributing funds and managing projects to benefit the less privileged section of the South African society.

On the operational level, public officials from the various government departments increasingly became involved in matters which directly relate to the requirements and workings of international organisations or supranational organisations. The following examples illustrate this:

• The European Union requires adherence to standards in so far as trade and industry are concerned. South Africa is presently one of Europe's major trading partners and officials involved in monitoring trade agreements need to be conversant with the nature and content of such agreements.

- The national health standards applied by the Department of Health, and related health organisations, are in keeping with standards laid down by the World Health Organisation (WHO).
- The requirements of the International Labour Organisation (ILO) in so far as labour practices are concerned, apply in South Africa. Officials from the national Department of Labour would play a major monitoring and co-coordinating role in this regard.
- The declaration of Human Rights (United Nations) applies to the dignity and basic rights of all people. The international declaration of Human Rights is reflected in the *Bill of Rights* as contained in the *Constitution of the Republic of South Africa*, 1996 (Act 108 of 1996).
- The requirements of the European Union (EU) apply in so far as donor funding for the development of public management capacity in South Africa, is concerned. The South African Management and Development Institute (SAMDI) and the Joint Universities Public Management Education Trust (JUPMET), which represent six Schools of Governance in South Africa, all receive donor support. Utilising this type of donor funding implies that academics from the six universities (Pretoria, Stellenbosch, Durban-Westville, Western Cape, Fort Hare and Witwatersrand) and officials from SAMDI should have a thorough knowledge of international donor funding procedures so as to be able to conform to the EU agreement which directs capacity development programmes in South Africa.

The University of Pretoria has positioned itself strategically to introduce and further develop a new education model with the advantage of flexibility whilst affording participants the opportunity of pursuing life-long learning. In this context the International Management and Administration-programme was specifically earmarked, and re-introduced as part of the Master of Public Administration programme by the University of Pretoria, to be delivered with the use of instructional technologies.

Along these lines, a USAID initiative termed Knowledge Exchange & Learning Partnerships-programme (KELP) assisted the School of Public Management and Administration in structuring a telematic education programme with international partner institutions to facilitate the offering of the International Management and Administration programme.

Towards the end of 1999, an agreement was signed which made the School of Public Management and Administration at the University of Pretoria a partner in KELP, which is funded by USAID. The School of Public Management and Administration was selected as the lead institution for the South African section of KELP. Being the lead institution implied, *inter alia*, the redesign of curricular programmes into a web-based format as

well, and the development of CD-ROMs that could be shared not only with other African universities, but also in interaction with the lead universities in the United States of America.

The primary goal of KELP is the promotion, use and integration of instructional technology in the research and learning of public affairs. The objectives of KELP are, in summary, to catalyze major improvements in African post-secondary institutions through the integration of modern information, communication, and knowledge technologies into the research, teaching and learning processes, and the increased flow of knowledge and experience between centres of learning in Africa and the United States of America.

KELP was operationalised by research through means of web research, literature research and undertaking study trips to selected universities in the United States of America, which could be regarded as leaders through their achievements in the fields of either instructional technology or Public Administration teaching. The objective of the research was to investigate and to gain exposure to instructional technology as well as subject related matter in the fields of Policy Management, International Management and Administration and Environmental Management and Development. The above fields were identified for their relevance and particular applicability in assisting to support South Africa's current re-entry into world affairs amidst globalisation.

INTERNATIONAL TEACHING TRENDS IN INSTRUCTIONAL TECHNOLOGY

n the United States of America a number of instructional technology-based programmes are currently running from tele-courses (including video-conferencing, video cassettes and cable and broadcast television) to fully-fledged on-line Internet programmes. Although tele-courses are technically speaking old technology, they still comprise a major method for delivering distance education. Enrollment in televised courses is continuously increasing throughout the United States. It is estimated that more learners follow tele-courses in the United States than Internet courses. In some cases, tele-course designers are rapidly including new technologies into their existing programmes. These include high-speed data networks, online-discussions and digital videodisks. Many tele-courses make use of the Internet to facilitate interactions between learners and facilitators. Faster Internet connections permit video to travel freely across computer networks; video segments created for tele-courses find their way into a variety of online courses (TAD Consortium, 2001).

Colleges throughout the world, conducting their business on a tele-course basis have throughout the world been in existence for a number of years. The CBS-company has introduced its Sunrise Semester in 1957. The Sunrise Semester was broadcast during the early morning sessions before the regular programming commenced. This particular pro-

gramme ran for 25 years. The British Open University has been offering tele-based programmes for nearly 30 years. In China the Central Radio and Television University has 1.5 million students enrolled for its different programmes.

In the United States of America, television is viewed as rather an evolutionary, rather than a revolutionary step in the growth of high technology distance education. It seems as if a number of tertiary institutions accept instructional technology as an important vehicle for transferring knowledge but are hesitant to discount the importance of traditional forms of knowledge transfer such as contact and paper-based tuition.

Essentially, tele-courses can be divided into two categories of models: *documentary and interactive*.

Documentary models focus on a series of documentary-style video-productions. Institutions that deliver these types of courses generally assign a facilitator to manage each course and to grade assignments and examinations. Tuition is typically similar to classroom-based courses except for the possibility of additional fees levied for videotape rental or other types of technology charges. In some cases the video segments are broadcast via cable or satellite networks whilst, in some cases, videotapes are made available in libraries or through mail-rental facilities (TAD Consortium, 2001).

In the case of the interactive models, some form of interactivity forms part of the course-work process. As an example, the University of Maine has one of the most extensive interactive tele-course programmes in the United States. The University offers hundreds of interactive tele-courses annually. During the 1997-1998 academic year to 2000-2001, tele-courses at the University of Maine increased from 216 to 269. Internet courses grew from 12 to 142 (TAD Consortium, 2001).

Presently, the instructional technology debate in the United States concerns around how much support should be given to existing and popular tele-based programmes when there are obvious reasons to re-focus on Internet-based programmes. New high-speed computer networks create the opportunity for what is termed "tele-web" programmes. This form of instructional technology incorporates existing tele-course footage with interactive assignments, WEB-resources and online discussion areas. In some tele-web programmes, video segments are still distributed via videotape (DVD or CD-ROM) rather than over the Internet. This is for practical reasons since video cannot yet be delivered clearly over standard modem connections. However, in the case of the Seattle Community College District, tele-course videos are broadcasting videos over a high-speed research network run by universities that are members of Internet2. These institutions are delivering the signals from their educational cable-television station over the Internet in three versions; one for modems, one for Internet2 and one for broadband connections such as Ethernet or digital subscriber lines.

An example of a Master's programme offered by the Indiana University on an onlinebasis is the Master of Science in Education-programme in Instructional Technology. This three-year programme is also referred to as the IST@IUB (Instructional Systems Technology @ Indiana University, Bloomington). The learners learn to develop and test processes, products and services that are ready for operational use in education and training settings. The aim is to prepare graduates who will assume design and/or development roles in public or private agencies and institutions involved in one or more aspects of instructional technology. The Master of Science in Education in Instructional Systems Technology is a 40-credit-hour programme, which requires a bachelor's degree from an accredited institution as an entry requirement. In addition, prospective learners are required to demonstrate that they have basic computer competence on either Mackintosh or DOS/Windows computer systems in the following areas: operating systems, word processing, graphics, a general theoretical understanding of how computers work, electronic mail, file transfer, information retrieval, scanning and WEB-publishing. The prospective learners should also have consistent access to hardware and software that could support the level of complexity associated with pursuing this online programme (Bowling, Interview, 16/08/2000).

The web-based programme is designed to afford distance learners the following:

- a project-based curriculum with an emphasis on collaborative work and the appropriate integration of technology into all facets of professional practice;
- contextual learning through solving real problems inside and outside the classroom; and
- integration of all major skills and concepts

The target group of Indiana University students are individuals who work full time (e.g. in-service teachers) with an admission number of 18-20 learners. Each incoming group of students is treated as a cohort. Specific programme components are designed, aimed at forming and maintaining a true connection between individuals studying at a distance so that even though they are geographically and physically separated, a sense of identity and unity is established. The programme however, makes provision for contact sessions and group activities.

REDESIGNING THE SCHOOL OF PUBLIC MANAGEMENT AND ADMINISTRATION'S MPA. INTERNATIONAL MANAGEMENT AND ADMINISTRATION PROGRAMME

The KELP visit, as well as visits to other universities and organisations abroad (i.e. the European Parliament), led to a realisation by the School of Public Management and Administration that a total redesign of existing curriculum contents on

International Management and Administration was necessary to provide students with the most up to date theoretical and practical information. This also led to a total reassessment of the typical learner profile of MPA-students.

South African Master of Public Administration programmes are generally focussed on adult in-service students and thus are based on an andragogical teaching approach. This approach deals with the art and science of helping adults learn, which is quite different from teaching non-adults - called pedagogy (White, April 2000: 70). Andragogy relies extensively on the experience of the learner and their interaction with the environment. Modern andragogical thought incorporates also the interconnectedness of a set of beliefs about learners that is deeply rooted in the humanism of Maslow and McGregor. Humanism influences andragogy by emphasising goal setting by learners, while stressing the role of self-esteem and self-actualisation, underscoring self-directed learning possibilites. This occurs whilst taking cognisance of the unique characteristics and experiences of adults (White, April 2000: 71).

Implementing the andragogical approach suggests a more loosely controlled teaching approach whereby students manage more of the learning process. Practically, this approach calls for instruction to focus more on process and less on content. This may occur by for instance, allowing them to select differing learning strategies or methods (White, April 2000: 71). The andragogical model asserts that several issues be considered in formal learning, *viz*:

- allowing learners to know why something is important to learn;
- · showing learners how to direct themselves through information; and
- relating the topic to the learners' experiences.

The instructor performs the role of facilitator or resource rather than process driver. Strategies such as case studies, role-playing, simulations and self-evaluation are useful in applying the andragogical approach (White, April 2000:72). In this regard, the tenets of the education model (flexible learning) followed by the University of Pretoria as referred to in paragraph 3, supra, against the andragogic approach created a unique opportunity for the restructuring of the International Management and Administration programme on MPA-level.

CURRICULUM OVERVIEW OF THE MPA INTERNATIONAL MANAGEMENT AND ADMINISTRATION PROGRAMME AT THE UNIVERSITY OF PRETORIA

he curriculum that emanated from the restructuring of the International Management and Administration programme of the School of Public Management and Administration, is presented as follows:

 To describe and explain the theory and practice of International (public) Management and Administration, as well as to determine the impact of internationalisation, globalisation and regionalisation on South Africa's domestic environment.

In lieu of the above objective, course content is grouped in such a way that participants are exposed to the comprehensive and broad international environment in a systematic way (for example, topics are categorised to, inter alia, explain the following: international organisations with a global, economic, European and African focus). Given the fact that this course is conducted from a South African point of view, particular attention is also given to regional issues including SADC and the role of the South African Department of Foreign Affairs. This insures that a reasonable progression of knowledge can be maintained, as well as provides for a structured foundation on which the participant or student can do preparation for a three hour written examination at the end of the module. As indicated in a previous paragraph, public officials from the various government departments increasingly become involved in matters, which directly relate to the requirements and workings of international organisations or supranational organisations. Upon completion of this programme, the participant or student, mostly coming from the public sector, should therefore be conversant with the underlying theory and practice of International Management and Administration, as well as have obtained a broad understanding and insight of the dynamics of the international environment and its major role players, and more importantly how it relates to the national and international functioning of the particular department. The latter is obviated with an assignment to be submitted within a month after the completion of the course work.

- Introduction to the science of Public Administration/International Public Administration
- Internationalisation/Globalisation
 - Overview of 20th century international relations
- International organisations with a global focus
 - The United Nations: An Overview
- Management and administration in an international context
- Scientific and technical organisations in an international context: an administrative and management review
 - UN Educational, Scientific and Cultural Organisation (UNESCO)
 - Universal Postal Union (UPU)
 - International Telecommunication Union (ITU)
- International Organisations with an economic focus:
 - International Monetary Fund (IMF)
 - World Bank
 - World Trade Organisation (WTO)
 - United Nations Development Programme (UNDP)
- The role and function of the Department of Foreign Affairs (South Africa)

- The role and function of protocol in the context of Foreign Affairs: national vs. international Perspectives
- Human rights as a guide-line for public administration (national vs. international perspective)
- International Labour Organisation (ILO): administrative perspective
- International organisations with an African focus:
 - the composition and practical functioning of the Organisation of African Unity (OAU) and the formation of the African Union (AU)
 - the Economic Commission for Africa (ECA)
 - the role and function of MAP
 - the composition and practical functioning of the Southern African Development Community (SADC)
- International organisations with an European focus:
 - the European Union (EU) Structural and administrative composition and relevant practical implications (EU and Trade, Development and Cooperation Agreement (TDCA) - excluding the European Programme for Reconstruction and Development (EPRD)
 - the European Union (EU) and the Lome Convention excluding European Development Fund (EDF)
 - the European Programme for Reconstruction and Development (EPRD), European Investment Bank (EIB), and the European Development Fund (EDF): a critical analysis of the development paradigm
- French policy on Africa (International management perspective)
- Organisation for Economic Cooperation and Development (OECD).

The motivation for restructuring the International Management and Administration programme to be conducted telematically, is as follows:

Firstly, the MPA learner profile was andragogical and thus compatible to the telematics approach followed by the University of Pretoria. Secondly, contact tuition as the traditional method of education and training, does not allow the necessary flexibility for learners who are geographically far removed or even physically incapable of attending classes. The University of Pretoria, however, continues to offer contact tuition options for learners who favour this option in a number of innovative ways:

- after-hours classes;
- lectures and specialised training in blocks consisting of a number of weeks per year;
 and
- tutor support in particular programmes.

Thirdly, paper-based teaching is the traditional mode of distance teaching and has thus far been the most widely used form in this regard. However, the problem with paper-

based teaching methodology within a southern African context, is that mail services tend to be unpredictable, untrustworthy and learners may not have access to a dedicated mailbox. According to Du Pisani (Interview. 2001), the turnaround time associated with the paper-based teaching methodology is unacceptably slow.

Fourthly, satellite television education opens the possibilities for delivering distance education to various locations simultaneously in the immediate southern Africa area. The University of Pretoria has a dedicated satellite footprint extending into the southern part of Zambia. The disadvantage associated with this technology is the relative cost involved in actively engaging therein. Another disadvantage is that the recipient location should have access to the necessary, quite expensive, equipment. These factors are quite inhibitative since it will essentially exclude individual learners from following this option. As a mass education option for various audiences in different locations, however, satellite television does seem to provide the answer (Du Pisani. Interview. 28/06/2001). Fifthly, an attractive option for delivering education and training for distance learners is videoconferencing. Video-conferencing is an interactive form of delivering education and training to individuals and groups (the most probable audience, given the efficiency factor). From a cost-benefit point of view, this option is less expensive than the satellite television but is dependent on the availability of an ISDN linkage. Within South Africa's bigger cities such linkage is available but across the country's boundaries, ISDN availability is very limited.

The technology of web teaching requires access to particular, yet relatively inexpensive equipment, e.g. computer and Internet connectivity. In addition, a normal telephone line is required. Within most of southern Africa this form of distance education appears to be an option. There are currently approximately 14 million installed telephone lines in Africa and the number of main lines in Africa are growing by 10% per annum. In South Africa, tele-density is currently in excess of 5.5 million. The South African telecommunications company, Telkom, is focusing on expanding and servicing rural areas by, for instance, installing DCET wireless telephone technology, which is quicker, easier and less expensive to install than conventional wired telephone infrastructure. Unfortunately telephone call costs are high in Africa and this may be an inhibiting factor in some instances as far as Internet subscription is concerned. Telkom is offering its clients a prepaid telephone option called the Prepaid-Phone, which is a world-first service, which operates with a fixed line dial-tone phone (Du Pisani. Interview. 28/06/2001).

PRACTICAL CONSIDERATIONS FOR A WEB-BASED PROGRAMME

esigning a Web-based course, which could incorporate the needs and aspirations of the MPA International Management and Administration programme participant, as well as incorporate the environmental circumstances unique to the adult learner in South Africa, imply that a number of factors should be taken into account, such as:

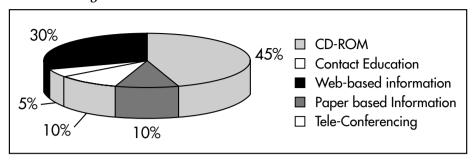
- · the geographical location of the learner
- the level of computer literacy of the learner
- the availability of computer facilities at home
- · the "band width" of current South African telephone lines
- the knowledge of computer soft ware, which support Web-programmes, of the facilitator and learner
- the volume of knowledge to be included in a Web-based course on International Management and Administration

As already indicated in paragraph 5, *supra*, Web-based programmes for the andragogical learner profile appears to be most feasible despite geographical constraints. Although computer literacy levels of prospective MPA students are in some cases low, additional computer courses are provided by the University of Pretoria to address this problem. Unfortunately not all students have access to computer facilities at home and should the introduction of a web-based MPA course be considered, the existing block week on International Management and Administration (contact education) should not be discontinued. It should thus be optional for students to register for either the Web-based programme or the normal block week course, until practice indicates a swing towards the Web-based programme.

In the practical design of a Web-based programme the volume of knowledge, or the subject content, is a determining factor when decisions need to be taken on the mode of delivery of information. Thus, should the bulk of the information be available on the Web, or should the web programme only outline the course and guide the learner to obtain and manage subject contents in his/her own time? In the latter context, the bulk of the information could be made available on CD-ROM so as to save on "down load time" due to the relative "small band width" of telephone lines in South Africa, if compared with the bandwidth of similar facilities in the United States of America. Web links to important and relevant "web sites" should also be included so as to provide the learner with maximum exposure.

In designing a MPA International Management and Administration Web-based course it is anticipated that the following composition of multi-media, CD-ROM, paper based information and contact education could apply, as illustrated in Figure 1.

Figure 1: Hypothetical illustration of the composition of a Web-based Programme



According to Figure 1, and due to large volume of information on International Affairs not necessarily available on the Internet, or available at the University's library, almost 45% of information would be made available on CD-ROM, which will serve as an extension of the multi-media package. The latter would include almost 230 Web links to Web sites of major international organisations and agencies worldwide. Ten percent (10%) of the information will be paper based, which will include research on current and relevant literature available in libraries; ten percent (10%) will be contact education; five percent (5%) will be tele-conferencing with participating academics abroad, as part of the KELP initiative, and thirty percent (30%) Web-based information (i.e. the instruction manual, course and literature outlines, dates for assignments and web links). A separate URL will be created for such a Web site, which can only be accessed if a participant has registered for the course.

The University of Pretoria currently uses WEBCT as a platform or "tool" to manage and support Web-based courses. One to two day courses are being planned for facilitators and participants to acquaint themselves with WEBCT in order to effectively utilise the advantages of the programme. WEBCT, inter alia, provides not only facilities to enable the responsible lecturer to manage the group and all the relevant information, but also provides participants and facilitators with bulletin boards, conversation groups, white boards and a separate e-mail option. The design of the programme will be done in such a way that it is user friendly so as to maximise the effectiveness and benefits of a Webbased course on International Management and Administration.

CONCLUSION

The re-emergence of South Africa into the new world order signified the imperative that a new approach towards management and administration education and training should be sought. Officials should be given in-depth training and professional development in matters of public affairs and they should be able to benchmark their own functioning

against international practice. Decisions taken locally may bear implications for South Africa internationally. In addition, technology is the driving force behind globalisation and international management and administration.

These developments created an opportunity to introduce International Public Management and Administration students to such technology through means of education and training programme delivery. Instructional technologies serve another purpose as well in that they accommodate geographically dispersed learners through a flexible learning model to education and training to which they may otherwise not have had access. As South African universities are increasingly becoming more popular destinations for foreign, especially African, students, the aspect of physical access and accommodation is brought to the fore.

With the aid of the KELP-initiative and through means of instructional technology, significant numbers of such students could potentially be accommodated with limited necessity for physical attendance at programmes. The result being that large numbers of not only South African, but also African students may receive opportunities to be educated and trained in matters concerning international public affairs, which could capacitate them to contribute to their respective countries' development and internationalisation.

BIBLIOGRAPHY

Constitution of the Republic of South Africa, 1996 (Act no 108 of 1096).

 $Department \ of \ Telematic \ Teaching \ and \ Education \ Innovation. \ 2001. \ University \ of \ Pretoria. \ Pretoria.$

Bowling, E. *Interview*. 16/08/2000. Programme Director. Department of Education: Instructional Systems Technology. Indiana University, Bloomington. Indiana. United States of America.

Du Pisani, A. *Interview*. 28/06/2001. Operational Manager. Tele Tuks. University of Pretoria. Pretoria.

TAD Consortium Information Update. June 2001. (neilshel@icon.co.za).

Thornhill, C. 2000. *Globalisation/Internationalisation*. Paper presented at a MPA International Administration Seminar. University of Pretoria. Pretoria.

Venter, C. S. C. 2000. Scientific and technical organisations in an international context: An overview. Paper presented at a MPA International Administration Seminar. University of Pretoria. Pretoria.

White, R. D. 2000. On Pedadagogy and Andragogy: Balancing the Learning Needs of Pre-Service and In-Service MPA Students. *J-PAE (Journal of Public Affairs Education*). Volume 6. No.2. April 2000. USA.