

ENHANCING THE CONTRIBUTION OF OPEN AND DISTANCE E-LEARNING IN HIGHER EDUCATION: IMPLICATIONS FOR THE CENTRAL UNIVERSITY OF TECHNOLOGY, FREE STATE

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ABSTRACT

The aims of this article are to describe the findings of the author over the last decade regarding traditional distance education which eventually became Open and Distance E-Learning (ODEL) at the Central University of Technology, Free State (CUT) and secondly, the integration of Open Education Resources (OER) within ODEL. Up for debate in Perspectives in Education is the question whether ODEL and OER have not already stimulated a new constellation for higher education? After attending several international conferences of the International Organization for Open and Distance Education (IODE), the National Association for Open Distance Education of South Africa (NADEOSA), Higher Education Learning and Teaching Association of Southern Africa (HELTASA) as well as the South African Association for Research Development in Higher Education (SAARDHE), it became evident to the author that global trends forced a number of changes onto the South African higher education system.

Subsequently, the CUT also had to reconsider the role of distance education within the Free State and Northern Cape provinces where it operates. In 2004 for example, students enrolled for distance education countrywide already constituted between 4% and 32% at traditional face-to-face universities while for universities of technology the figure was only 4,74% (CHE, 2004:185-186). However, universities of technology since expanded tremendously in using ODEL.

Keywords: Research on Open Distance E-Learning; Open Education Resources; Perspectives in Higher Education.

1. ORIENTATION

The 2006-Corporate Academic Plan of the Central University of Technology, Free State (CUT) clearly states that: "Consistent with the National Plan for Higher Education (NPHE) objectives *vis-à-vis* distance education and the creation of a dedicated distance education institution, the Department of Education (DoE) has in July 2004 given notice to this institution to phase-out its distance education services. However, the CHE-report (2004) on distance education, holds no direct implications for the status quo at the CUT. In fact it enhances further possibilities for accredited distance short courses (e.g. Service Learning Programs) and web based E-learning (to supplement main stream curriculum) at Learning Centers. Since 2005, CUT established Web CT 6 and upgraded it to Blackboard Campus Edition 8.

This server provides limited e-learning possibilities to all students at the Bloemfontein main campus as well as at the Welkom campus in the Gold Fields and the Kimberley Regional Learning Centre in the Northern Cape. Regional Learning Centers are generally referred to as distance facilities or "branches". CUT is also a founder member of the National Association for Distance and Open Learning (NADEOSA) which is closely co-operating with the South African Association for Distance Education (SAIDE), the African Council for Distance Education (ACDE) and the Commonwealth of Open Learning (COL). The importance of these affiliations is testimony that the CUT is nationally recognized as one of the historically Higher Education Institutions (HEI's) which offered (dual contact) distance education which since became a blend of offering types. Membership of NADEOSA and international invitations to participate in DE-conferences *ipso facto* qualifies the CUT to be part of the family of DE-institutions both nationally as well as internationally. Jenny Glenny, exutive director of SAIDE and member of the NADEOSA Executive Committee, serves on the CHE and keeps NADEOSA members up to date about the issues regarding distance education and the subsequent blurring boundaries with face to face contact lectures. This is one of the main reasons why the CUT remained a member of NADEOSA, especially when the association also included "Open Learning" in its mission. As a full member -- CUT *via* its participation in NADEOSA and other Higher Education research for -- stays in tact with the latest developments in ODEL and lately, Open Education Resources (OER) research ventures at UNESCO (UNESCO, 2007) (Cf. Appendix A).

ODEL and OER are *inter alia* the most logic ways to Afrcanise HEI's links in the Southern African Economic Development Countries (SADEC) which also falls within the scope of this journal (Cf. Maree, 2001).

2. NEEDS OF THE CENTRAL UNIVERSITY OF TECHNOLOGY, FREE STATE (CUT):

There is a real need for the CUT to offer predominantly face-to-face programs for part time learners, but this should no longer rigidly applied. For example, it may well be that the University of the Free State (UFS) and Central University of Technology (CUT) could best fulfill their declared regional niche development role by offering many of their programs for permanent employed learners who cannot attend full time classes within a tri-campus model (Qwa Qwa- Welkom- and Bloemfontein campuses respectively) as well as at the National Institute for Higher Education: Northern Cape (NIHE) in Kimberley. NIHE is a new phenomenon in higher education in South Africa. It serves as a hub for the CUT, UFS, University of South Africa (UNISA), University of North West (UNW), University of the Western Cape (UWC) and the Vaal University of Technology (VUT) to offer higher education in the Northern Cape which is the greatest geographical province of the Republic of South Africa but also the poorest and most sparsely populated region (De Beer, 2006). Realization of such institutional goals would almost certainly involve substantial use of ODEL and OER.

ODEL modes blend multiple learning curriculum delivery into the most effective delivery mode for a specific part of a curriculum, utilizing a variety of teaching strategies such as problem based learning, dual contact lectures, e-learning, videoconferencing, experiential education, et cetera. Conveniently it lends itself to use OER and the mobility of intellectual property and to reform university entrepreneurship (Cf. New Perspectives on Education and Skills for the 21st Century, 2007).

3. BEAUROCRATIC INTERFERENCES

According to the HEQC-strategies for ensuring the quality of e.g. short courses, would require new accreditation requirements in collaboration with Sector Educational Training Authorities (SETA's). This accreditation process would include demonstrating institutional readiness to offer such accredited programs also as distance programs. It must fulfill a range of criteria governing quality distance education provision. Once the HEQC-criteria have been met, SAIDE suggests to the Ministry that no further restrictions be placed on the educational methods that institutions use to fulfill their missions and achieve their goals.

It is argued that the accreditation processes which the HEQC has put in place for programs moving into distance education modes are now sufficiently refined to ensure that the quality concerns of the Ministry will be resolved. This will mean that existing ODEL programs of the CUT, (Cf. recommendations 3,4 and 5 of the SAIDE-report (2004) focusing on quality assurance) will ensure that reasonable levels of quality are achieved.

Moreover, it is suggested that the Ministry should not apply any additional criteria to the Higher Education Institutions (HEIs) who offer distance education (DE) such as the CUT, except insofar as any program moving from a predominantly face-to-face mode of delivery to a predominantly distance education mode of delivery (Cf. SAIDE Report, 2004).

In particular it should be noted that applying lower intake of lower than around 500 part time learners contradicts the financial logic of distance education. It is subsequently suggested that permission be granted for CUT that the Kimberley Regional Learning Centre at NIHE could enroll up to 500 learners or even more to ease the demands on the residential campus.

4. THE FINANCIAL FACTOR

Financial factors will eventually compel HEI's to implement ODEL and to make more use of OER. The Horizon Report (Horizon Report: New Media Consortium, 2006) identified the most recent trends in ODEL via various scientific data analysis and listed the following fact as their very first outcome:

"The environment of higher education is changing rapidly. Costs are rising, budgets are shrinking, and the demand for new services is growing. Student enrolments are declining. There is an increasing need for distance education with pressure coming not only from non traditional students seeking flexible options, but from administrative directives to cut costs. The 'shape' of the average student is changing too; more students are working and commuting than ever before, and the residential, a full-time student is not necessarily the model for today's typical student. Higher education faces competition from the for-profit educational sector and an increasing demand by students for instant access and interactive experiences."

It becomes clear from stakeholder representations that the Program and Qualification Mix (PQM) process urgently needs to be refined, especially with respect to the concept and functioning of regional clearing houses and participation of UNISA in these, as well as what is understood by unnecessary duplication. Any judgment on duplication / overlap need to be based on an investigation to establish what is the "same" or "different" about any given program. Equally, issues of quality, the area targeted (regional or national), whether a program is a niche program or not, and the need for such a program (number of distance or part time learners), need to be taken into consideration.

Theoretical evidence is clear, however, the educational significance is even more predominant within the ever expanding e-learning and educational technology environment. Especially in the field of Co-operative Education where students of universities of technology have to do off campus experiential learning both in the public and private sectors. The South African Association for Co-operative Education (SASCE) annually discusses the partnerships between industry and universities of technology. Assessments are conveniently being done at a distance. That is where the learner is instantiated from his own lecturer and assessed off campus by the employer. Important is to note that experiential learners are now also subsidized by the Department of Education (SASCE News, 2007). In Service Learning or Work Integrated Learning (WIL) becomes more and more part and parcel of Life Long Learning concepts both in the real work place as well as in collaborative partnerships between HEI's and industry to accredit qualifications and to claim benefits under the Skills Development and Levy Act. Again, ODEL and OER form the corner stones of modern technology to offer WIL at any time in the respective work places (De Beer, 2009).

5. OPEN EDUCATION RESOURCES (OER) SOLUTIONS

Ministers of Education acknowledged ODEL at the Commonwealth of Learning (COL) conference of October 2006 in Jamaica (Connections, 2007). COL also hosted the Free/Libre Open Source Software (FLOSS) conference in Kenya. Open Learning is a teaching method that is *inter alia* based on the research of Freinet and Montessori.

Open Educational Resources (OER) were condoned by UNESCO in 2002 which refers to digitalized materials offered freely and openly for educators and self paced learners. It promotes open access to the design process with either relaxed or non-existent intellectual property restrictions (Third Annual Open Education Conference, 2007). This could be eventually achieved with a net based educational infrastructure on the African continent. Subsequently the SA Government approved a policy to implement FLOSS to enhance technology skills with the assistance of the Council for Scientific and Industrial Research (SA Media, 2007). Due to the wide variety of methodologies for andragogical as well as pedagogical applications, OL also has a holistic philosophy of its own (UNESCO International Institute for Educational Planning, 2007).

In the online literature, OER can commonly mean the following:

- open courseware and content;
- open software tools (e.g. learning management systems);
- open material for e-learning capacity building of faculty staff;
- repositories of learning objects; and
- free educational courses". (Creative Commons, 2007).

According to Johnstone (2009) OER may be defined as:

- Learning resources - courseware, content modules, learning objects, learner-support and assessment tools, online learning communities;
- Resources to support teachers - tools for teachers and support materials to enable them to create, adapt, and use OER, as well as training materials for teachers and other teaching tools; and
- Resources to assure the quality of education and educational practices.

UNESCO (2002) already explained the term as:

- Visiting lecturers and experts;
- Twinning arrangements, providing for international exchanges of students and academic staff;
- Imported courseware in a variety of media;
- Externally developed sponsored programmes;
- Inter-institutional programmes developed collaboratively;
- Publications ; and
- Information resources of the Internet.

A very serious and important fact about the application of OER academe should be aware of is to respect the usual intellectual property rights. The moment somebody takes up a pen or type a word, it has copyright (Ed Tech, 2007) A lawyer, O'Reilly (2009), assisted in setting up an Open Source Convention which OER Commons derived from.

“OER Commons is a project of ISKME, and it encourages users to use any Creative Commons license except no Derivatives” quotes Baird (2006). It includes restriction on the commercializing of academic works, however, it encourages sharing academic knowledge still under a license.

To appreciate OER one must understand the philosophy of OL within global and Africanized perspectives (indigenous knowledge). Much debate can be raised about the terms “Africanization” and indigenous knowledge as in the case of “diverse perspectives of inclusive education (Cf. Nind et al., 2009).

Subsequently, it must be studied as such when it is said that Native Africans learn by imitation. They observe their fathers and accomplished leaders during their apprenticeships. General principles were passed down from generation to generation (Sagan, 1997). !Kung San, southern Africa's original people of the Kalahari Desert, in the Republic of Botswana and Namibia who are typical of the hunter-gather mode of existence in which modern people spent most of their time are compared with the most advanced space projects of the National Aeronautic Space Administration (NASA). One of their scientists, Carl Sagan (1997) describes their formidable forensic tracking skills as “science in action”. Modern space scientists do just the same when they try to analyze a crater on the Moon, Mercury or Triton by its degree of erosion. However, they do not perform their calculations only, on Maxwell's equations or quantum mechanics from scratch. Instead, they also figure out all the tracking protocols since the beginning of mankind according to Nature's rules. For example like the !Kung tracking protocols. How they scrutinized footprints of fast moving animals which display longed symmetry. Their accuracy of inductive and deductive reasoning. The wind that blow away the footprints. These methods are identically to what planetary astronomers use in analyzing craters, other things being equal, depth-to-diameter ratios and wind erosive processes (Sagan, 1997:315-316).

The above scenario exactly describes the approach towards the philosophy of OL. That is from the cradle of mankind in Africa to the first step of mankind on the Moon. It covers the whole history of academic and technological development through the ages. It adds on. It refers back. It projects. It integrates knowledge. It preserves intelligence. It unlocks information. It disseminates indigenous knowledge and knows how to implement skills. Unfortunately, it is very difficult to determine and protect copyrights, says Dr. Rudi de Lange (2007), Director of the School for Art and Design at the CUT, because it is knowledge outside the formal and traditional academic spheres.

Technology based ODEL which is often hampered by bureaucratic procedures, will inevitably be overcome in the same way how appropriate technical solutions always overcome such jargon. That is to say without the totalitarian language management engineering of politicians as Sagan (1997) formulates it in his book “The Demon-haunted world: “Science is a candle in the dark”:

- New ideas, invention, and creativity in general, always spearhead a kind of freedom breaking out of hobbling con-strains. Freedom as a prerequisite for continuing the delicate experiment of science which is one reason the former Soviet Union could not remain a totalitarian state and be technologically competitive. At the same time, science or rather its delicate mix of openness and skepticism, and its encouragement of diversity and debate is a pre-requisite for continuing the delicate experiment of freedom in an industrial and highly technological society (Sagan, 1997).

Skeptical thinking does not imply that ODEL and OER will be exactly planned according to the philosophy of OL as argued for the only and single solution for HEI's in Africa, but to serve as a premise or starting point for an holistic differentiated meaning. That implies that the whole concept is bigger than its parts which could be investigated with a logical set of logical reasoning tools such as:

- Facts that ODEL and OER are on the agendas for HEI's;
- Substantive evidences of academic debates are available;
- Experts of ODEL and OER with renowned authority propagate the democratic ideas of freedom and openness;
- OL is open for multiple working hypothesis for a number of methodologies that are successfully implemented and developed, e.g. Flexible learning, Blended Learning, WIL and all its sub-divisions;
- ODEL and OER as such, is an alternative hypotheses on its own. A number of new ideas on OL can be elaborated on, however, not initial impressions which were already coined; and
- Alternatives for ODEL and OER are yet to be developed. Subsequently, it is not a final panacea for HEI's. One reason for example, will be to reject the idea that e-learning could ever replace the lecturer in the African learning culture.

6. STEPS TO TOWARDS THE INTERVENTION

In Higher Education nomenclature, concepts of knowledge and skills production constantly changes since the very first establishments of European church universums. (Places of knowledge, value, traditions and religion in the wider world) (Lategan, 2000).

Traditional universities, however, transformed according to multiple external needs of society. For an example, in contemporary historical terms formal adult education in the West began during the Industrial Revolution, when it was needed to deliver a trained labour force and a literate, cohesive population.

It developed further during the 1920s, when scholars such as Eduard Lindeman and John Dewey proposed the democratic, learner-centred philosophy of education known as Progressivism (Open University of Hong Kong and the National University in Taipei, 2000). It gained momentum in the civil rights era of the 1960's. Sizer created a model that linked the stages of national development to types of education. Although he did not anticipate the changes that technology would bring to education in the coming decades, his premise remains strong: "Education is contextual, and as societies change, so do their educational needs". In the post-war era Asia for example experienced unprecedented change, which precipitated new educational initiatives (Open University of Hong Kong, 2009)

One of the first models for OL is best exemplified by the British Open University which is founded in adult education theory with a distinctly Western orientation. Its goals include:

- Nurturing autonomous, self-directed individuals to help them reach their potential;
- Challenging the *status quo* so that adult learners become change agents in society;
- Linking education with job training and hence with labour force requirements;
- Redressing social inequities; and
- Promoting a democratic society (Open University of Hong Kong, 2009).

Eventually Asian nations adopted a lifelong learning orientation, and open universities for adult learners expanded. Korea, Indonesia, Thailand, Turkey, and India have between 200,000 and 500,000 students in their open and distance learning universities while China has nearly one million. There are open universities in Bangladesh, Sri Lanka, Singapore, and Vietnam. Tam noted that ODEL were becoming "the main vehicles for addressing the education, training, and human resources development needs of Asian nations" (Open University of Hong Kong, 2009).

The stated mission of the International Council for Adult Education (ICAD) includes promoting peace, the advancement of women and oppressed and marginalized people, and universal literacy and access to education, basic services, and employment (Open University of Hong Kong, 2009).

The former editor of *Perspectives in Education*, Jonathan Jansen summarizes: "You may recognise another university in which the entire place has been transformed into a commercial center, the departments called 'cost-centres' and the students called 'clients'; in which every "management" meeting is consumed with balancing the budget in the light of impending subsidy cuts; in which the response to external intervention is one of compliance and consent; in which the accumulation of large and larger numbers of accredited publications is pursued

with relentless vigour; in which teaching is equated with the elegance of scholarship. Just about every in such a place is in the business of (ac) counting. Here, too, the university has long ceased to exist" (Jansen, 2004).

7. OUTCOMES OF THE INTERVENTION

Subsequently to the intervention of ODEL and OER, the whole curricula of the discipline: Philosophy of Education, have also to be co-constructed in the knowledge debate towards:

- A learner-centred approach;
- Problem-based instruction; and
- Life long learning (Venter, 1999).

A modern university became a knowledge-constructing industry, however as temporary, developmental, socially and culturally mediated. It is therefore non-objective (Venter, 1999). Lategan (2000) describes the post modern university where there are no boundaries between institutions. It is no longer a question of the territory of HEIs, but now a question what HEI,s can contribute to nation building. The industrialist, Prof. Christo Viljoen (2005) says that through the ages of mankind, there were three identifiable revolutions in the so called knowledge industry, namely:

- The Agricultural Revolutions (2000 BC);
- The Industrial Revolutions (1750 AD); and
- The Information Revolutions (1950 AD).

It created a 3 level society, namely an upper, middle and working class. The Information Revolution differentiated between the "haves and the have not's" (Viljoen, 2005).

In the process it dismantled hierarchies and "flattened" society structures such as traditional universities. Distance became irrelevant in the decentralization of universities and the creation of the virtual knowledge society and cyberspace (Higher Education White Paper, 2001). The implications of IT created demands for better education and skilled workers. The information society forced the new universities into partnership models. Universities of Technology transfer are directly accountable for National and African societal expectations.

Higher Education underwent a paradigmatic change globally and therefore the Association of African Universities (AAU) also strives to change their epistemology of new paradigms. Subsequent to this fact, the AAU used the principles of OL in breaking the ground for the following innovative ideas in the African context: "Within the African Virtual University (AVU), we decided to change the way we see our strategic role in African higher education and training and the value we add to various initiatives in African universities.

We decided to look for a niche in the African higher education landscape by concluding an (outside-in) analysis on how we can create and add value in the burgeoning networked African higher education and training environment. In other words, it becomes necessary to change the epistemological and ideological paradigms that frame and predicate the way we operate in the African higher education and training scene. In that scheme, the art of progress is to preserve the order we inherited amid change, and to preserve the change we are working on amid order in the AVU network that has been established over the years by the African and external institutions that we are working with on this continent" (Association of African Universities, 2005).

The Low rating of sub-Saharan Africa on several indicators of HEI's in access, gender equity, inclusion, quality and achievement has been of great concern in the last thirteen years since the Jomtien conference of 1990 (AAU, 2005). These concerns have translated into plans of action for redress by the Conference of African Ministers of Education (MINEDAF), the African Union (AU) (formerly Organisation of African Unity and Decade of Education of Africa) and the New partnerships for fast-tracking the attainment of the Millennium Development Goals (MDG) in Africa are being laid out by the AU, MINEDAF and NEPAD (AAU, 2005).

The core component of these strategies is capacity building in the form of equipping/strengthening key operators and implementers with the requisite knowledge, skills and attitudes to bring about positive change. This is premised on the age-long assumption that the human element including teachers and managers is the most important determinant of success in the teaching-learning enterprise. If Africa is to improve its standing in HE- indicators and the attainment of the Millennium Development Goals, attention must be focussed on improving the capacity of its teachers and educational managers to deliver good quality HE (AAU, 2005).

Needs assessment surveys conducted over the last eight years by the Higher Education Unit of UNESCO-BREDA, the Nigerian National Universities Commission and UNESCO Harare Cluster Office have revealed that capacity needs to be built in the following areas in sub-Saharan Africa, among others:

- HIV/AIDS Education for Primary Education Teacher Training;
- Development of materials for ODEL;
- Modern methods of teaching and learning andragogy;
- Modern Research Skills for higher education teachers;
- Modern methods of educational institution administration and management (AAU, 2005); and
- Emerging themes in this new customer/client/human approach are for instance the whole philosophy of Emotional Intelligence. Customers/clients are better informed than ever before.

This fact forced HEI's to change their organisational structures and "to increase production because of technological advances" (Higher Education Quality Committee, 2005).

These are also the obvious reasons why ODEL and OER are the natural choices to change conventional curricula into more generic models for Life long Learning which could be merged with the job market (Van Branden *et al.*, 2000).

More important for South African Universities is that the "changes in the relationship between HEIs and society were brought to the fore in the context of the 1990s democratic transition and the concomitant identification by policy makers of different elements that would contribute to the reconstruction and development of a society weakened by racial discrimination, political oppression and social inequality. Thus the most general aim of change in post-apartheid South Africa the development of a just and democratic society where the majority of the population can share in the wealth of the country and realise individual and collective potential had to be translated into new missions, strategies and directions in the discharge the core functions of HEIs" (Higher Education Quality Committee, 2005).

This process of transformation has been expressed in legislation which *inter alia* has identified the following goals:

- Promote equity of access and fair chances of success to all who are seeking to realise their potential through HE, while eradicating all forms of unfair discrimination and advancing redress for past inequalities in HEIs;
- Meet, through well-planned and co-coordinated teaching, learning and research programmes, national development needs, including the high-risk employment needs of a growing economy operating in a global environment;
- Support a democratic ethos and a culture of human rights through educational programmes and practices conducive to critical discourse and creative thinking, cultural tolerance, and a common commitment to a humane, non-sexist order; and
- Contribute to the advancement of all forms of knowledge and scholarship, and in particular address the diverse problems and demands of the local, national, southern African and Africa contexts, and uphold rigorous standards of academic quality (Higher Education Quality Committee, 2005) (Compare relevant topics in Perspectives in Education, Online searches 2009).

Consequently the Council on Higher Education (2003) launched a research project on ODEL in collaboration with the South African Institute for Distance Education (SAIDE, 2004).

Though this research had been submitted to the former National Minister of Education, N. Pandor, no clear cut government policies have yet been tabled, for the future for HEI's to start redefining their policies and procedures for ODEL. However, due to former Pres Thabo Mbeki's commitments to the AAU on NEPAD principles ODEL is a given factor. And of course to link the ideals of the AAU with the AU, UNESCO, COL and the AVU that are *inter alia* sponsored by the World Bank (Cf. Council for Higher Education, 2003).

Therefore, policymakers both at the CUT and NIHE must attend to the removal of regulatory barriers to learning, especially to facilitate the application of ICT's in HEI's (Cf. International Institute for Capacity Building, 2004).

8. CONCLUSIONS AND RECOMMENDATIONS

In a very prominent and meaningful press release Dhanarajan (2005) of the AAU at its Cape Town conference in February 2005 summarises it as follows:

The publication of the report of the Commissions for Africa, our common Interest, is an occasion of profound promise for the continent and its future. The report sets out fully and blisteringly the challenges facing Africa. More importantly, it presents new opportunities for Africa and her partners in the international community to reshape policy and practice to create a better life for the people of Africa.

The Association of Commonwealth Universities and the Association of African Universities unreservedly support the analysis and recommendations of the Commission, and welcome the spirit of new partnership between the Africa Union/ NEPAD and the international community which animates the report. Specially, we are delighted that the Commission has fully endorsed the ten-years partnership programme developed by the ACU and the AAU, Renewing the Universities, and that it has called upon the international community to provide the US \$5 billion necessary to implement fully the programme.

It is clear, as (former) President Mbeki has repeatedly argued that the universities of Africa are central to any sustainable effort to rebuild and develop the continent. Only the universities can provide the human capital necessary to ensure the good governance which lies at the core of the solution to all of Africa's problems (AAU, 2005).

The report of the Commission makes clear that the renewal of Africa's universities is a necessary condition for:

- Building the human and institutional capacity necessary to create and sustain the good governance, without which sustainable progress cannot be achieved in any area;

- Developing the leadership in public life, in civil society, and in business which is critical to African-led sustainable development;
- Improving the accountability of governments;
- Building citizen participation and strengthening the culture of democracy;
- Sustainable social and economic development;
- The achievement of the Millennium Development Goals and Education for All;
- Ensuring Africa's effective participation in the knowledge economy;
- Building the capacity in science, engineering; and
- The necessary technology to bridge the science gap between Africa and the rest of the world.

Dhanarajan (2005) concludes that “The ACU and the AAU share fully the conviction of the Commission that building capacity in science and technology is a necessary condition for addressing pressing problems from agricultural development to water to create the proposed network of African Institutes of Technology and research centres.

The success of Renewing the Universities will require the active support of key African and international stakeholders. We are deeply grateful for the formal commitment to our partnership expressed by Universities UK and the South African Universities Vice-Chancellors Association and by the plenary meeting of the Australian Vice Chancellors Committee. We hope that all of the universities of the Commonwealth will join our partnership and, further, that we shall create a global coalition of universities in support of the recommendations of the Commission. The AAU and the ACU will also be working with colleagues from a variety of countries who have already in place important initiatives in support of different aspects of African higher education.

The leaders of Africa are clear that higher education is central to the progress of their countries. The ten year partnership programme that we have established, and which has been fully endorsed by the Commission, offers a unique opportunity to renew the physical and human capacity of Africa's universities, thereby enabling them to contribute decisively to the solution of Africa's most crippling problems. We call upon the international community to provide the resources necessary to implement in full the recommendations of the Commission so that future generations do not “... look back, and wonder how could our world have known and failed to act?” (Cf. Dhanarajan, 2001: 60-68).

Urgent recommendations for HEI's, including the CUT and its HEI's partners in the Free State and Northern Cape provinces, will *inter alia* be to:

- Prioritise AAU membership;
- Change their corporate sections for International Affairs to “African and International Affairs”;

- Budget for the development of ODEL and OER;
- Adapt Academic Plans according to ODEL and OER principles;
- Adapt academic curricula to Flexible Learning according to ODEL and OER principles;
- Academic staff development in ODEL and OER;
- Share resources with other African HEI's (e.g. library facilities and co-operative education infrastructures) (Cf. Carlton, 1970);
- Change traditional " Distance Education" to " Open-and-distance E-Learning";
- Co-operate with the United Nations UNI-TWIN project of UNESCO e.g at the University Free State on Microbiology in African States (De Beer *et al.*, 1999);
- Seek closer cooperation with COL (De Beer, 2010);
- Enhance the establishment of a single co-ordinatd Open University System which includes the Vocational Colleges, Agricultural Colleges and all the Further Education and Training Institutions;
- Participate in peacekeeping initiatives on the African continent (De Beer *et al.*, 2006); and
- Capacity building for a new generation of instructional re-designers in multimedia with integrated OER (Cf. Vezoli, 2003) and (Cf. Konings, 2009).

9. POINTS FOR DEBATE

There could surely be a debate on the following controversial issues:

- Whether ODEL and WIL are rather more suitable for adult learners within the concepts of andragogy than that of traditional pedagogy?;
- Whether Moodle or OER which is gratis, is not a better option than the very expensive Blackboard Campus Editions (read former Web CT)?;
- Whether OER only refers to academic content and not also to physical resources such as museums, archives, governmental research laboratories, in service training facilities of the private sector, schools, churches, farms, the South African National Defence Force, hospitals et cetera? (Cf. Appendix A); and
- Whether the National Institute for Higher Education: Northern Cape NIHE) should not be converted into a Virtual Open University of the Trans Xhariep to include all the partner HEI's, Further Education Training Institutions and vocational colleges from the University of Roma in Lesotho to the last regional learning centers of VUT, University of Stellenbosch (US) in Upington and UNISA in Springbok to the very last possible facilities in the library of Port Nolloth on the West Coast behind the Xhariep river and where it mouths out into the Atlantic ocean?

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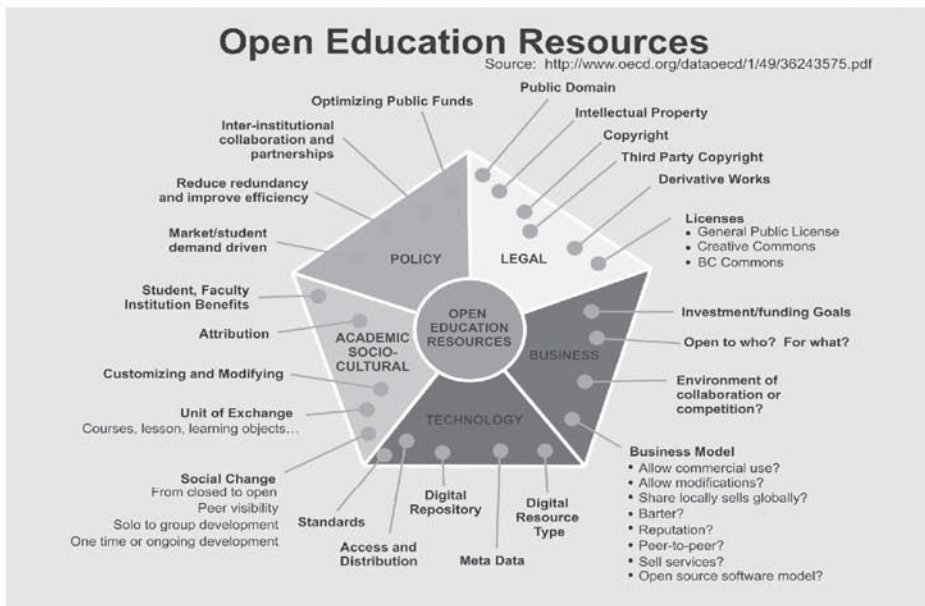
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APPENDIX A:



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Footnote 1: This article has been adapted from a power point presentation at a conference of the South African Association for Research in Higher Education (SAARDHE) 2007. University of Pretoria.