The E-Learning Enterprise – Sourcing Opportunities and Ensuring Sustainability

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Abstract—**Skills shortage is experienced world-wide and often a skills mismatch is observed between programme content and industry needs with the result that qualifications do not secure jobs. Furthermore the distribution of qualifications in different disciplines may not necessarily be aligned with the needs of a country. This paper informs private developers of electronic distance-learning programmes or academics that do curriculum development on how to identify national skills gaps and opportunities for e-learning, using the South African context as example. It also provides information on how to assure sustainability of these programmes by employing criteria for programme accreditation, by accommodating national strategies in education and by assessing 'provider readiness' to offer distance learning.**

Index Terms—**e-learning, skills shortage, accreditation criteria, provider readiness**

I. INTRODUCTION

Identification of national skills gaps will lead to the development of appropriate learning programmes by private and public academic institutions. Criteria against which programmes are to be developed need to be defined and providers should assess their "readiness" to enter the market to ensure sustainable enterprise.

II. IDENTIFYING SKILLS GAPS OR MISMATCHES

Different parties are engaged in the provision of essential national skills. First and for-most, the employer creates job opportunities and career pathways for suitably trained and qualified workers at different levels. Academic teaching or vocational training institutions offer accredited programmes in accordance with the Department of Education and the Department of Labour legislations and strategies.

Some background information on formal education in South Africa follows:

In South Africa a new National Qualifications Framework (NQF) has been billed [1]. The revised NQF is organized as a series of levels of learning achievement in ascending order from one to ten with unique levels descriptors. It comprises three coordinated sub-frameworks: for General and Further Education, for Higher Education and for Trades and Occupations. The General and Further Education Sector and the Higher Education Sector comprise formal education institutions and fall under the Minister of Education. The Trades and Occupations Sector comprises training and education in and for the workplace and falls under the Minster of Labour. These sectors have sectoral quality councils that

have executive responsibility for NQF implementation and act in close liaison with one another and with the South African Qualifications Authority (SAQA). The responsibility of the SAQA is the registering of standards and qualifications in terms of the SAQA Act, 1995 (Act No 58 of 1995). Umalusi is the Quality Council for General and Further Education and Higher Education and Trades and Occupations have their own quality councils. The Higher Education Quality Framework (HEQF) aims to determine the qualification types, characteristics and purposes of all higher education qualifications in South Africa and their level in the NQF and will be implemented on 1 January 2009.

Before embarking on programme development for distance learning, criteria against which the programmes are to be structured need to be identified. The 'Criteria for Programme Accreditation" (2004) [2] provide a systematic approach to assess quality management arrangements in higher education programmes and define minimum standards for programme accreditation. Criteria are grouped under input criteria (the minimum standards for activities, resources, conditions, etc., which should take place/be available or present in order to offer the programme), criteria relating to process (processes and activities which relate to the delivery of the programme), output and impact (what is delivered, e.g. throughput, and attained e.g. alleviating shortages of expertise in relevant fields by a programme), and review criteria (using e.g. user surveys).

Furthermore, the following questions need to be answered when identifying skills gaps or mismatches:

A. What national skills shortages are reported?

A skills shortage arises when employers are unable to fill, or experience difficulty in filling, vacancies in a specific occupation or specialisation because of a shortage of workers with the required qualifications and experience. The Accelerated and Shared Growth Initiative for South Africa (AsgiSA) was launched during 2005 to develop and enhance skills and the Joint Shared Growth Initiative for South Africa (Jipsa), a multi-stakeholder working group with government, business, labour and civil society as partners, was established in 2006 to address these issues. Jipsa defines priority skills as 'an absolute or relative demand (current or in future) for skilled, qualified and experienced people to fill particular roles/professions, occupations or specialisations in the labour market' [3] and identified these as:

- "High-level, world-class engineering and planning skills for the 'network industries' – transport, communications, water, energy and for infrastructure development

- City, urban and regional planning and engineering skills for local and provincial governments;
- Artisanal and technical skills, with priority attention to infrastructure development, housing and energy, and in other areas identified as being in strong demand in the labour market
- Management and planning skills in education and health, in the social sectors and for local government,
- Teacher training for Mathematics, Science and language competence in public schooling, and
- Skills for the priority sectors, especially in project management, general management and finance; and skills for local economic development."

The Department of Labour published a list of national scarce skills in 2007 [4] which reports on the specific generic occupations and their specializations with skills scarcity and provides a measure of the magnitude of scarcity. Using this type of information one could then identify disciplines in which programmes could be developed, and also decide at what level and in which format they could be presented, e.g. short certificate courses or post-graduate degree courses.

It probably make sense to investigate what programmes are offered at tertiary institutions within the public and private sector and whether the outcomes of these programmes are actually met and whether they comply with employer and with national needs..

B. What are the national strategies concerning education?

If private institutions consider offering programmes in South Africa it should be noted that in addition to the 'Criteria for Programme Accreditation" (2004) the HEQC states that programmes should comply with the following national requirements (as quoted) [2]:

- "In the case of public providers, the programme must be part of the institution's programme and qualification mix, as approved by the Department of Education.
- In the case of private providers, the institution must apply to the Department of Education for registration in terms of the requirements of the Higher Education Act No. 101 of 1997 and the Regulations of the Department of Education (2002), before the programme is provisionally accredited for the candidacy phase.
- The programme has to meet the national requirements pertaining to programmes which are at present being developed within the context of the NQF.
- The programme should be registered by SAQA on the NQF.
- The stipulations of the Labour Relations Act and conditions of service with regard to recruitment and employment of staff.
- Relevant labour legislation and regulations on health and safety in the workplace."

Of specific importance is one of the key proposals of the National Plan for Higher Education [5] that states that there will be a shift in the balance of enrolments over the next five to 10 years between the Humanities; Business and Commerce; and Science, Engineering and Technology, from the current ratio of 49:26:25 to 40:30:30. This should be kept in mind when developing new learning programmes.

III. PROVIDER READINESS

Based on a report of The Council of Higher Education (South Africa) [6] and also a background paper of the report [7] some matters of significance are discussed concerning the quality of distance learning in South Africa.

A. Administrative infrastructure

Extensive administrative infrastructure and academic support of lecturers and students in the delivery of e-learning programmes need to be in place.

B. Student support

The characteristics and situation of students should be accommodated. Effective administrative systems need to be in place for the identification of non-participative students and for the monitoring of student performance in order to timely identify at-risk students. Strategies for ensuring student through-put and for referral to appropriate academic development programmes are of vital importance. Student support could include: contact sessions (lectures, workshops, etc.), tutorials and one-on-one interactions (face-to-face, telephonically or via e-mail). Timely and personal feedback should be planned for. Dependence of curriculum materials to "teach" in distance learning programmes necessitates the provision of high quality materials. Contextualization of course material is of vital importance.

C. Course materials

Materials should be developed and reviewed in terms of the criteria such as:

- The aims and learning outcomes have been set clearly,
- The content and teaching approach accommodate diversity and support learners in achieving the outcomes.
- Learners are assisted with the difficulties associated with "learning at a distance".
- Web-based materials comply with set standards concerning e.g. consistency, readability and ease of navigation

D. Costs

Economies of scale need to be considered. Distance education courses with fewer than 100 learners are probably too small to benefit from distance education economies of scale. Courses offering regular face-to-face contact can probably be operationally sustainable on reasonable fees when enrollments reach about 500 learners, and courses with 1000+ learners do not enjoy significantly greater economies of scale with smaller enrollment increases, but are sensitive to declines in enrolment to below 1000.

IV. SUMMARY

Fitness for purpose programmes aligned with national skills needs and national educational strategies assure healthy economy. Self-assessment against criteria for accreditation and criteria for user readiness ensure viability and sustainability of learning programmes.

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