STRATEGIES FOR IMPROVING POLYTECHNIC CURRICULUM EFFECTIVENESS: A CASE FOR ZIMBABWE.

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Abstract

This paper discusses the strategies that polytechnic employ in order to effectively implement and evaluate curriculum. While efforts are put in place to align what is taught in polytechnic classrooms and workshops, there still remains a yawning gap between what skills acquired and those required by industry. Major issues that surround the challenges of poor curriculum implementation are highlighted and solutions suggested. There should be a match between what industry calls ‘competence’ and a lecturer achieves at the end of the examination session. How the internal and external assessments are administered should be above board.

Key words: Competency Based Education and Training, competence, competency, vocational training, curriculum, assessment.

Introduction

This paper discusses different strategies that can be implemented if curriculum is to be effective. The current system is described then criticised in order to articulate where improvements can be made. Curriculum strategies from literature are compared with practical observations so to point out if weaknesses are inherent in the polytechnic system of curriculum implementation. Firstly, a distinction is made between terms competence and competency.
Occupational competence

Humphrey (1992: 61) defines a competence as, “the ability of the learner to put skills and knowledge into action.” Theoretical knowledge of electrical engineering, for example, is not adequate without the action of electrifying new factories, houses, dormitories, et cetera. Ellstrom (1997: 267) defines it as the capacity of an individual to successfully handle certain situations or complete a certain task or job. This capacity may be defined in terms of:

- Perceptual motor skills (e.g. dexterity);
- Cognitive factors (different types of knowledge and intellectual skills);
- Affective factors (e.g. attitudes, values, motivations);
- Personality traits (e.g. self-confidence); and
- Social skills (e.g. communicative or cooperative skills).

These factors are embraced in Zimbabwean polytechnic curriculum as perceptual motor skills are reflected in practical examinations of short hand, welding, and computer skills, and others. Theory tests which incorporate cognitive factors tend to dominate more than practical tests. The technicians and artisans who act as trainers lack training skills and this tends to compromise the quality of learning process.

Many authorities contend that vocational training is still oriented towards technicians with principles of repetitive tailoring-work, performing work as directed (Ellstrom (1997: 268). Secretaries in Zimbabwe, for example, were trained in simple receptionist duties of answering telephones, diarising important errands and appointments for their managers. Nowadays, secretarial course incorporates accounting concepts and some computer skills in order to adapt to the changing work environment. According to the SKA model (Skills, Knowledge and Attitudes or behaviours), the core competences of an effective polytechnic curriculum are skills, knowledge and attitudes. Each core competency is a function of these three components (Williams and Hua, 1999:6). A student who excels in one component of the competency but not in the other two components, cannot be seen to have mastered the competence.

A distinction is necessary between a competency and a competence. Davies, Ellison and Bowring-Carr (2006: 33) clarify that the term competence recognises a person’s
demonstrated ability, in terms of skills and knowledge, to meet the minimum standards to fulfil a role in a particular occupation. It relates to the achievement of ‘outputs,’ that is, a person’s ability to produce satisfactory ‘results’ through carrying out the role. In contrast, HayGroup (in Davies et al 2006: 36) define a competency as a measurable characteristic of a person that is related to effective performance in a specific job, or culture. A competency is not, therefore, a task but a characteristic that enables a person to carry out the tasks of the job. Thus both a competence and competency should be present for a person to be effective.

In Competency Based Education and Training (CBT), industry prescribes the competency standards and also suggests practical assessment guidelines for evaluating students’ performance. The polytechnic is responsible for developing appropriate learning strategies, assessment materials and professional and academic resources needed to effectively deliver training that will meet the needs of industry-specific competencies. The CBT methodology therefore involves a symbiotic relationship between industry and training providers or polytechnics (Afeti, 2005: 9).

**DACUM approach to curriculum content determination**

Mittal, Anand, Singla, Gupta, Gupta and Thukral (1999:35) explain that DACUM (Developing a Curriculum) depends largely on curriculum experts employed in a specific occupational area to determine curriculum content by following a systematic process. As has been mentioned above, the process is rather systematic in procedure. The DACUM approach in Zimbabwean polytechnic curriculum is evident in curriculum reviews done almost every five years. Curriculum reviews done from responding to the needs of the stakeholders may not be that systematic as to warrant being done every five years. Setting and compilation of examination items is done annually by ‘curriculum experts.’ Most of these polytechnic curriculum ‘experts’ are mere artisans who are not well versed in curriculum theory, yet they are expected to perform wonders in coming up with sound guidelines of student learning. The HEXCO curriculum department is not spared in this regard as most of the curriculum officers that act as a link between HEXCO and polytechnics are former high school teachers or polytechnic technicians that act as lecturers with no specific pedagogical and andragogical knowledge.
In the DACUM approach, suitable experts representing different sectors of employment and functional areas should be identified and asked to participate in a workshop to select the content for a particular programme based on the objectives of the curriculum (Mittal et al, 1999: 35). The DACUM workshop group functions collectively with all development activities taking place when the members are together. A curriculum expert is the coordinator of the group in taking appropriate decisions by adopting the following procedure:

- reviewing the employment opportunities;
- reviewing the activity profile;
- reviewing the goals and objectives of the curriculum;
- reviewing the appropriateness of curriculum areas;
- identifying components of knowledge and skills required for developing desired competencies;
- structuring knowledge and skills into meaningful learning sequence; and
- working out time required for instruction.

The procedure outlined by the DACUM approach above comes nowhere near the actual process that culminates in the development of polytechnic curriculum. Even though some form of workshop might be organised, the composition of the members does not normally constitute an expert workshop. HEXCO curriculum board members are Zimbabwean polytechnic principals who make important decisions that affect their individual polytechnics. This arrangement is rather problematic as they have conflicting interests that compromise the quality of polytechnic curriculum effectiveness. Such workshops are normally dominated by principals who decide what to include in certain curricula at the expense of the recommendations of industry.

**Delphi Technique**

Mittal et al (1999:36) describe the Delphi technique as consisting of a series of interrogations with selected experts by means of mailed questionnaires. The focus is on some curriculum content area in which an individual is knowledgeable. Mittal et al (1999:36) argue that the Delphi technique is not biased as some respondents never meet face to face to influence each other with one’s outlook. In addition, anonymity
enables each respondent to be more thoughtful and creative. This technique is exhaustive as information is sought again and again until consensus on content is reached. Due to busy schedules many experts have on their daily routines, the Delphi technique proves to be time-consuming and this compromises its strengths. Maybe that explains why Zimbabwean polytechnics do not use this type of approach in curriculum planning.

Mittal et al (1999: 37) stress that the involvement of experienced professionals and academics, their selection and the background of curriculum coordinator (in terms of his/her knowledge and skills pertaining to education technology and human resources development and, leadership qualities) are key factors in designing appropriate curriculum. This approach is highly theoretical and is not applied in the Zimbabwean situation of curriculum development. It may be because a questionnaire has a low response rate to be relied on.

The above curriculum designing techniques are supposed to be implemented by National Manpower Advisory Council (NAMACO), whose major task is to develop and implement Zimbabwe Occupational Standards Framework (Zimbabwe 1996:sec19.2). The main beneficiaries of NAMACO are Higher Education Examinations Council (HEXCO) and Curriculum, Research and Development Unit (CRADU) in the Ministry of Higher and Tertiary Education. NAMACO is expected to come up with relevant and up-to-date job profiles in liaison with industry representatives such as Confederation of Zimbabwe Industries (CZI) and Zimbabwe Chamber of Commerce (ZCC). However, the role of NAMACO is not practically evident in the day-to-day development of polytechnic curriculum.

The job profiles should be handed over to CRADU and polytechnic principals for development of industry-based curriculum. Since strategic leadership is the lifeblood of running polytechnics, principals’ roles are strategically geared to influence CRADU and NAMACO to come up with relevant polytechnic curriculum that ultimately aligns itself with the specific needs of industry. However, there is a weak link between the role of NAMACO and the quality of polytechnic curriculum. Weaker also are the principals’ strategic leadership skills in influencing the effective curriculum from NAMACO’s contributions with industry’s job profiles.
One would ask how Zimbabwean polytechnic curriculum is developed in the clear absence of NAMACO’s direct involvement. CRADU has actually appointed some senior lecturers to be discipline coordinators of curriculum planning (HEXCO, 2000).

These paraprofessionals coordinate the activities of curriculum review and forward their recommendations to a group of polytechnic principals (HEXCO board) who scrutinise the contents of the proposed changes, and ratify or reject the changes based on their experiences and expertise (HEXCO, 2000). The involvement of experts from industry is normally stressed during external assessment of coursework and examinations. In extreme cases, industry ‘experts’ are asked to validate the quality of theory and practical examination items (HEXCO, 2004). This is ideal, however some of these ‘experts’ lack theoretical knowledge of the pedagogical procedures.

**Planning at a central stage (HEXCO’s CRADU)**

The major challenge is that CRADU has no legal credibility just like Zimbabwe Schools Examination Council (ZIMSEC), to be autonomous because it is run as a department of the Ministry of Higher and Tertiary Education (Manpower Planning and Development Act, 1996, Part 2:sec 4). CRADU is not established by an act of parliament. Even though planning of polytechnic curriculum is centralised, individual polytechnics exercise their discretions in responding to the needs of their immediate environment. For example, Mutare Polytechnic, situated in Eastern Zimbabwe, is surrounded by exotic woodlands that made it possible for it to introduce B.Tech in Wood Technology. This is done on a piecemeal approach as qualified lecturers to teach at university level are still scarce.

**In-service training of trainers or lecturers**

PSC has a policy that a lecturer who obtains extra qualifications in education and training will have a notch salary increase. This encourages lecturers to obtain Zimbabwe Further Education Trainers’ Certificate or Diploma (ZFETC/D) as a staff development strategy. However, the notch is so little that it does not meaningfully persuade lecturers to obtain these training qualifications.

PSC has a manpower development leave that is offered to civil servants to further their studies (Manpower Planning and Development Act, 1996; Sec 47). Its benefits
are two-fold: firstly, one is on half salary during the period of study. Secondly, both the costs of tuition and examination fees are reimbursed upon the production of receipts on completion. Even though there is a PSC policy to develop human resources, the lecturers’ initiative to develop themselves is met with very rigorous, bureaucratic selection procedures. The quota or number of lecturers approved to undergo further studies is too small to be meaningful. At Harare polytechnic alone, about eight staff members’ manpower development leaves are approved per financial year, despite the huge demand of about three hundred lecturers who need to further their education somehow.

**Polytechnic curriculum and quality assurance committees**

“Polytechnic academic quality assurance framework, charters and overall curriculum provisions are overseen by this committee which monitors the academic performance of the polytechnic against its agreed targets or benchmarks” (Abu Dhabhi Polytechnic Quality Assurance Manual, 2010: 32). Such quality assurance committees are not evident in Zimbabwean polytechnics. Departments act arbitrarily as such committees when they check the fulfilment of HEXCO coursework requirements termly. This is what polytechnics call internal assessment where the quantities (and sometimes quality) of assignments and tests are verified.

**Curriculum evaluation strategies**

Generally, evaluation is a process through which some individual or a group makes a judgment about the value of some object, person, or a process (Posner, 1995: 221). Scriven (in Posner, 1995:226) explains that curriculum evaluation decisions are either formative or summative. In Zimbabwean polytechnics, curriculum is evaluated internally and externally (HEXCO, 2006). Internal and external assessment strategies are explained below.

**Formative Evaluation**

In formative evaluation, the decision maker is part of the curriculum development effort, and thus, the evaluation process is an internal process (Mittal et al, 1999: 35, 80). On each of the Higher Education Examinations Council courses, students are
assessed on the strengths of two theory assignments weighing 22% and two practical assignments weighing 31% and two tests weighing 7% giving a total of 60% for coursework. The students write an examination that weighs 40%. A student is expected to pass both coursework and the examination.

Polytechnic curriculum is evaluated internally by Heads of Departments verifying that HEXCO requirements of two theory, two practical assignments and two tests per subject are administered. The mark sheet per subject per class should be completed correctly using the 60-40 policy explained above. The departmental academic files should be in place with schemes of work, assignment list per subject as well as marking schemes per assignment. A file room for each department should be prepared where students present their academic files with marked assignments. Internal evaluation is done as preparation for external assessment (HEXCO, 2004).

Summative evaluation

In summative evaluation, the decision maker is external to this effort and so, is the evaluation process (Mittal et al., 1999: 35: 80). External assessment is supposed to be done by industry representatives for each discipline. Representatives from Zimbabwe Broadcasting Corporation (ZBC) should come and assess Journalism courses while Zimbabwe Electricity Supply Authority (ZESA) representatives should also assess some electrical engineering courses. However, this is highly theoretical as what actually happens on the ground is totally different from the expected.

The way these external assessors are invited is also problematic as it compromises quality of assessment done. This is because each college invites its own assessors sometimes with no clear criteria. As a reward of payment will be made at the end of the exercise, it is questionable whether the assessment will be objective, since the external assessors know that the following year another invitation might come. Probably, having a pool of external assessors appointed by HEXCO on merit, based on current industry experience and deployed randomly to polytechnics, would improve the overall quality of assessment. There is an attempt to decentralise polytechnic curriculum assessment to the ten centres of Zimbabwe, namely Harare, Bulawayo polytechnic, Kwekwe polytechnic, Gweru polytechnic, Mutare polytechnic, Masvingo polytechnic, Belvedere Technical Teachers’ College, Joshua Mcabukho Nkomo polytechnic, Kushinga Phikelela polytechnic, and Bulawayo School of
Tourism and Hospitality. However, only marking and external assessment have been decentralised (HEXCO, 2006).

Conclusions

From the above discussion, the following conclusions can be noted:

- Theory tests tend to dominate more than practical tests.
- The technicians and artisans who act as trainers lack training skills and this tends to compromise the quality of learning process.
- Both a competence and competency should be present for a person to be effective in achieving a skill.
- The Competency Based Education and Training methodology involves a symbiotic relationship between industry and training providers or polytechnics (Afeti, 2005: 9).
- Most of polytechnic curriculum ‘experts’ are mere artisans who are not well versed in curriculum theory.
- HEXCO curriculum board members are Zimbabwean polytechnic principals who make important decisions that affect their individual polytechnics. This arrangement is rather problematic as they have conflicting interests that compromise the quality of polytechnic curriculum effectiveness.
- There is a weak link between the role of National Manpower Advisory Council and the quality of polytechnic curriculum. Weaker also are the principals’ strategic leadership skills in influencing the effective curriculum from NAMACO’s contributions with industry’s job profiles.
- The involvement of experts from industry is normally stressed during external assessment of coursework and examinations only.
- Industry ‘experts’ validate the quality of theory and practical examination items (HEXCO, 2004) during external assessment. This is ideal, however some of these ‘experts’ lack theoretical knowledge of the pedagogical procedures.
- The major challenge is that CRADU has no legal credibility just like Zimbabwe Schools Examination Council (ZIMSEC).
• Departments act as Quality assurance committees fulfilment of HEXCO coursework requirements termly and emphasise on the quantitative aspect of assignment and tests at the expense of quality of such endeavours.
• The choice of external assessors is rather biased and questionable as each polytechnic invites its own assessors. Objectivity is lost as towing the line of the employer will guarantee them another contract next examination session.

Recommendations

• There should be deliberate training of lecturers in pedagogy and andragogy so as to equip them with the demands of curriculum theory.
• Industry experts should be involved in curriculum development right from the onset so that demands of industry are reflected in curricula.
• Heads of Departments and Division should be trained in curriculum theory and assessment issues so as to run the departments effectively.
• Principals should not referee and judge examinations as they are interested parties. An independent examination board should run the affairs the polytechnic assessment system. HEXCO is on independent and is biased and pass rates published are inflated by polytechnic principals.
• Carefully trained academic boards should run the academic affairs of arbitrary Head of Departments and who would have been hand-picked.
• An independent examination board should appoint external assessors to remove bias and rubber-stamping.
• An act of parliament should give legal autonomy to CRADU so that quality of decisions is not compromised.

References

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