Programme Design and Quality Management for Work-Integrated Learning in a Co-operative Education Partnership

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ABSTRACT

Over the last decade, higher education institutions in South Africa have been engaged in transitional processes of restructuring and recurriculation, with a view to making qualifications more responsive to the socio-economic development needs of our society. This period of transition was characterized by structural reconfigurations resulting in the merging of institutions and the birth in South Africa of universities of technology and comprehensive universities. At the level of policy interventions the aim was to transform and align curriculum practices and to improve quality. Academics had the opportunity for recurriculation that incorporated an outcomes based approach to learning in a single National Qualifications Framework (NQF).

Current academic discourse pertaining to notions of learning and work has shifted the focus back to Co-operative Education as practised by the former technikons. New challenges and opportunities have emerged for experiential learning as a teaching and learning methodology. Experiential learning has in some respects struggled to emerge as a transformative force in higher education and is instead being blurred or displaced by revisionist and redefined terms such as work-integrated and service learning. The State funding of experiential and work-based learning has been questioned, in the perceived absence of nationally approved quality, structured and integrated learning programmes. This is in part due to the lack of institutional resources to develop, support and maintain the pedagogic rigour of experiential learning. A further factor is that the educational management of the experiential learning processes are not always appreciated as having any learning outcome benefits for students, but simply been displaced and delivered as a set of administrative processes. Curriculum development, in particular the recurriculation of existing programmes against the backdrop of the Higher Education Quality Framework (HEQF) presents an exciting challenge, particular to technology focussed institutions. Work-integrated learning must be understood and curriculated for in partnership with the relevant external partners from industry or the community. Any decision on students participating in off-campus work-based (industry or community) experiential learning should be informed by the assessment criteria and the locus for best measuring those outcomes. The assessment of critical skills should underpin the knowledge and discipline contexts and should attract academic credits aligned to NQF and level descriptors, prescribed in the curriculum design.

This position paper will focus on three aspects. The first will contextualize and clarify some of the nuanced terminologies that have evolved, in an attempt to simplify and demystify the ambiguities pertaining to learning and work in South Africa. The second will focus on a proposal for a programme re-curriculation design that will facilitate work-integrated learning into the mainstream curriculum that is work-based, educationally managed and assessed, with academic credits pitched at the required NQF level. The third will focus on quality management and a process model that can inform institutional arrangements and resource utilization to enhance the student learning experience.

The overall benefits of such a quality management approach, along with effective curriculum design strategies will enhance the ability of universities of technology, comprehensives and further education and training colleges to profile and deliver work-based learning as an academically viable pedagogy for career focussed qualifications.

INTRODUCTION

One of the strategies for promoting a culture of life long learning is by increasing participation rates in formal and informal learning across all levels and across all sectors. Higher Education Institutions, as a national competence, is receiving increasing recognition for their role in the growth and development of human capital. This has led to the promotion and support of learning regions within the context of a human resource development strategy (PAWC, 2003).

Higher Education Institutions, especially universities of technology (UoT's) and comprehensive institutions have evolved from the former technikon practise of the co-operative education model of engaging in learning partnerships between academic institutions and stakeholders in industry and the community. The aim was to enhance the knowledge base and applied competencies of students in an attempt to narrow the gap between knowledge creation at the institution and the transfer and application of this knowledge into reflexive skills and competencies in the workplace. Curriculum design needs to be focussed on being responsive also to learner needs (Brookfields, 2000) where opportunities and methodologies pertaining to work-based learning should receive formal recognition and accredited certification that is integrated into the curriculum.

The purpose of this paper is to outline an approach that will improve the design and delivery of career focused, work-integrated learning and vocational programmes. An attempt will be made to understand and interpret nuanced terminologies that seek to find a better fit between education and the world of work. This will be followed by a transitional curriculum design proposal where the duration and level of the experiential component will be determined by assessment criteria that provide academic merit and credits within the qualification at the required NQF level. The discussion will then focus on how to structure and build capacity for the quality management of off-campus, industry-based experiential learning programme management.

The growing importance of knowledge and applicable skills in the world of today, and the ever-increasing numbers of people being educated and trained at a higher level has increased higher education's responsibility to and its influence within society. In order to fully assure its responsibility and its role, higher education needs to change, and universities of technology need to identify and actively fulfil their new and growing role and responsibility in this respect. (CTP, 2001)

EXPLORING TERMINOLOGY FOR DEFINITIONAL CLARITY

In an attempt to gain definitional clarity on the relationship and link between learning and work it may be useful to explore innovative initiatives which create opportunities for learning and providing experience of managing change (University of Leeds, 1996). A project team from the University of Leeds teased out three aspects that linked learning to the world of work, namely; learning *for* work; learning *at* work; and learning *through* work (Seagraves, et al., 1996).

Learning *for* work broadly encompasses anything that has vocational intention and originates or is delivered from schools, colleges or even learning media such as television.

Learning *at* work relates to training and development that is work-based delivered in-company. Learning in the authentic context enhances knowledge and competencies by the very nature of the experience of the student in the workplace. This is learning by experience or experiential learning.

At the heart of learning *through* work is the process of engaging the student in specified work-based tasks where such learning and experiences can be evidenced and assessed as part of the curriculum within academic institutions.

In higher education, learning *for* work may well include elements of learning *at* work and learning *through* work. The common denominator to all these modes of learning and work is the need to establish partnerships for co-operation and collaboration between academic institutions and external stakeholders in industry and the community as illustrated in figure 1 below. The diagram represents the fundamental definition of *Co-operative Education* as a *philosophy of learning that promotes the concept of enhanced learning based on the co-operation between education institutions and industry, commerce and the public sector* (HEQC 2004). Over the years, methodologies and practices have evolved along with new and nuanced terminologies.

Some examples are illustrated below:

Types of methodologies:

- *Work-Integrated Learning*
- *Experiential Learning*
- *Work-based Learning*
- *Service Learning*
- *Internship*
- *Learnerships*
- *Research Collaboration*
- *Staff Development*
- *Exchange Programs*
- *Partnerships*
- *Community Outreach*
- *Life Long Learning*

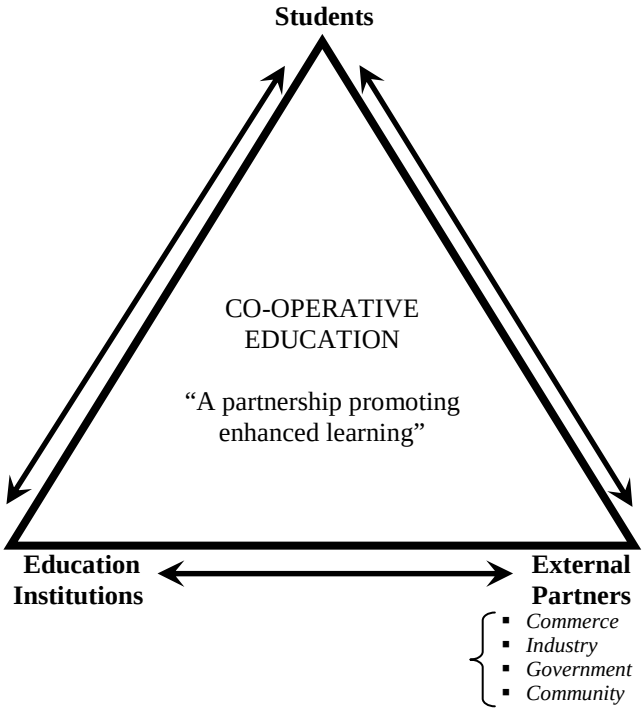


Figure 1: Co-operative Education Methodologies

WORK-INTEGRATED LEARNIN**G**

Within the context of higher education, work-integrated learning is now the preferred terminology as it profiles and recognizes the need to ensure that the workplace learning is structured, planned, monitored and assessed at the correct NQF level to ensure integration with the curriculum outcomes of the whole qualification.

The aspect that distinguishes work-integrated learning from pure work-based or experiential learning is the role that negotiation plays between the academic institution, the learner and the employer.

The negotiation involves identifying achievable learning outcomes which are meaningful and challenging to the individual, relevant to the employer and have academic credibility within the institution, aligned to the programme outcomes (Brennan, 1996).

It is generally accepted that academic learning at the institution is planned, resourced and structured to ensure an environment that supports the student experience of learning. Examples would include orientation, subject syllabi guidelines, assessment methods, timetables, lecture and teaching methodology, support intervention for access, bridging programmes, libraries, laboratories, tutorship and extended programmes. As the workplace is not a learning institution, but rather a place for productivity and profit, it stands to reason that for work-based learning to be successful the obligation would rest on the higher education institution (HEI) to ensure that similar emphasis is placed on ensuring processes that track the student's development, learning and transition from the HEI into the workplace, until the return to the institution at the end of the experiential period. Any suggestion to pass on such responsibility for learning entirely to industry would be shortsighted and irresponsible.

SERVICE LEARNING

The purpose of service learning is to engender a sense of civic responsibility in students, enabling them to share the knowledge, skills and attitudes learned during their studies with civic society. It aims at developing a student's life skills and awareness of personal, social, cultural values and respect for and understanding of others thus leading to more responsible citizens. Service learning engages students in activities where both the community and students are primary beneficiaries and where the goals are to provide services to the community and to enhance student learning in a reciprocal partnership. Therefore co-operative education and service learning share the goal to enrich the students understanding of course content and discipline (HEQC/JET 2005).

The diagram in figure 2 sets out a logical hierarchal status of current terminologies and shows the interrelationship and links to learning and work within the current South African context. Co-operative education as the overarching philosophy emphasizes the collaborative partnership to enhance student *learning for* the workplace. Experiential learning acknowledges the experience that will be acquired in the discipline context which occurs *at work* (also work-based) and therefore the contribution of *learning for* work. Work integrated and service learning distinguishes between the industry and community based contexts respectively and goes further in prescribing a direct link to the curriculum as a structured and credit bearing requirement within a qualification that best illustrates *learning through work.*

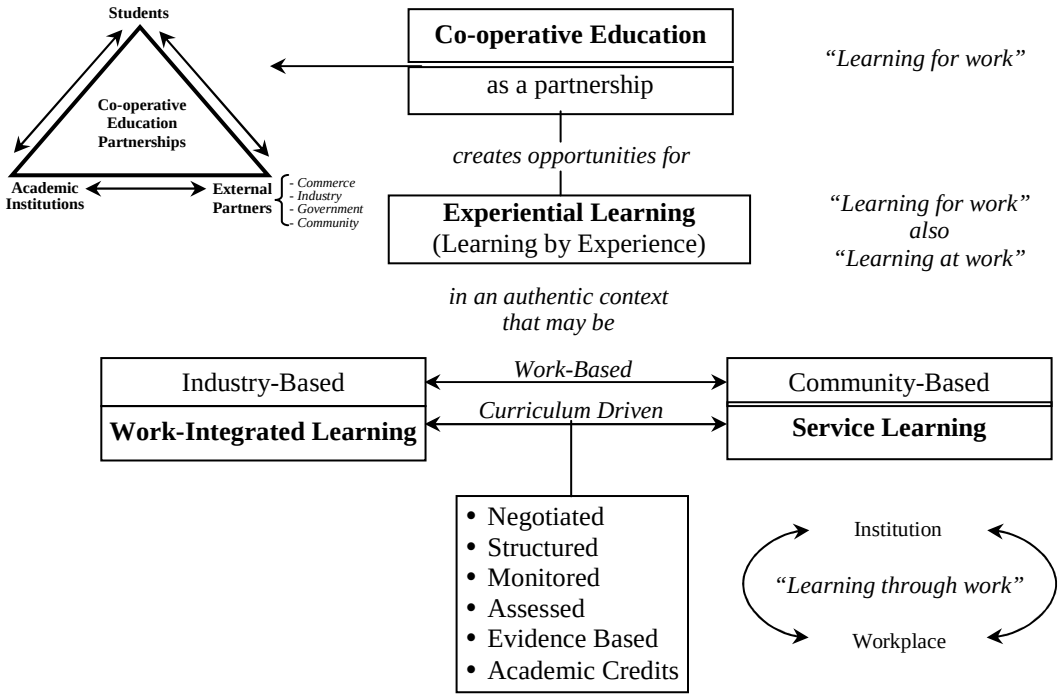


Figure 2: Terminology and definition clarification

The challenge for higher education institutions is to ensure that work-integrated learning forms part of and integral to the exit level outcomes of the qualification. It is then incumbent on the higher education institution to ensure that the assessment and evaluation of the student's learning experience is managed and measured with the same rigour and accreditation that applies to the theoretical component of the curriculum.

Work-based experiential learning is often not well structured or meaningfully integrated into the curriculum. The quality and quantity of workplace provision is at times inadequate and the opportunities for maximizing student learning and development could be compromised. The complexity of work-based assessment has to be acknowledged and any attempt to propose that a simple pass-fail system would work, would be in conflict with the spirit and objective of an outcomes-based approach to education and training.

CURRICULUM DESIGN STRATEGIES

Higher Education Institutions face many challenges as it strives to position itself as a player in the development of human capital through qualifications which are responsive to technological, economic and social development needs. The restructured higher education landscape and the need for career-focused programmes must be supported, sustained and quality assured to ensure that universities of technology and comprehensive universities respond to this requirement of educational provision.

Work-integrated learning programmes are a specific learning intervention that has significant benefits for students, academics and industry. The challenge is to ensure that quality and adequate resourcing underpins implementation that can guarantee the student added value learning through the work-based learning as part of the curriculum.

Work-integrated learning must be viewed as a learning experience whereby the classroom is transferred to the workplace and therefore the institution has an obligation to ensure that the necessary infrastructure and financial support is given the same priority as is the case in a more controlled and managed environment for the academic programmes at the Institutions. Similarly, work-integrated curriculum design must ensure that the assessment criteria and instruments can match the intellectual and pedagogic rigour of pure academic programmes.

Curriculum Design Proposal: From content syllabi to learning outcomes

The proposal that follows presents an opportunity to explore and pilot a curriculum design recurriculation process to achieve the exit level outcomes and assessment criteria in the purpose statements of qualifications currently registered with SAQA (The South African Qualifications Authority).

The key challenge of this process is to establish a framework that will facilitate the transition from the present SAPSE / subject-assessment paradigm to finding new flexible learning programmes, consistent with the principles and outcomes based education (OBE) and the NQF. The success of this endeavour would be to manage not only the learning paradigm change, but to manage and resource the capacity building of academic staff with minimum disruption to core business activity in the classroom. This proposal sets out an action plan for the project and an opportunity to pilot, with a view to formulating an institutional strategy for recurriculation.

Curriculum Development, the NQF and OBE

Curriculum development that incorporates a work-based and work-integrated learning outcome should be informed and curriculated in partnership with commerce and industry. The decision to prescribe a block of experiential learning time in industry should be informed by the assessment criteria of the learning outcome.

The implication of OBE for curriculum development creates opportunities for recurriculation that should promote new paradigms and approaches to teaching and learning, assessment and service delivery. The role of the lecturer changes from provider of knowledge content, to manager of the learning process. This facilitation starts with the whole qualification exit level outcomes and the associated assessment criteria. These outcomes cascade down to smaller enabling or sub-outcomes, each with their own assessment criteria that could even be evolved down to a unit standard as the smallest unit of learning. Academic credit allocation now relates to notional hours of learning and such accumulation of credits can be clustered into flexible modules, for ease of progression and articulation.

Work-integrated learning (WIL) must be understood to be a learning and development experience that focuses on the student. The experiential learning in the workplace must be carefully planned to accommodate the particular workplace environment and its integration with the academic learning at the institution. To effectively manage the learning process, in preparation for and during the experiential learning, will need similar priority in terms of infrastructure and resource allocation as is the case for the academic learning environment. Figure 3 highlights some of the learning aspects that contribute to a supportive learning environment.

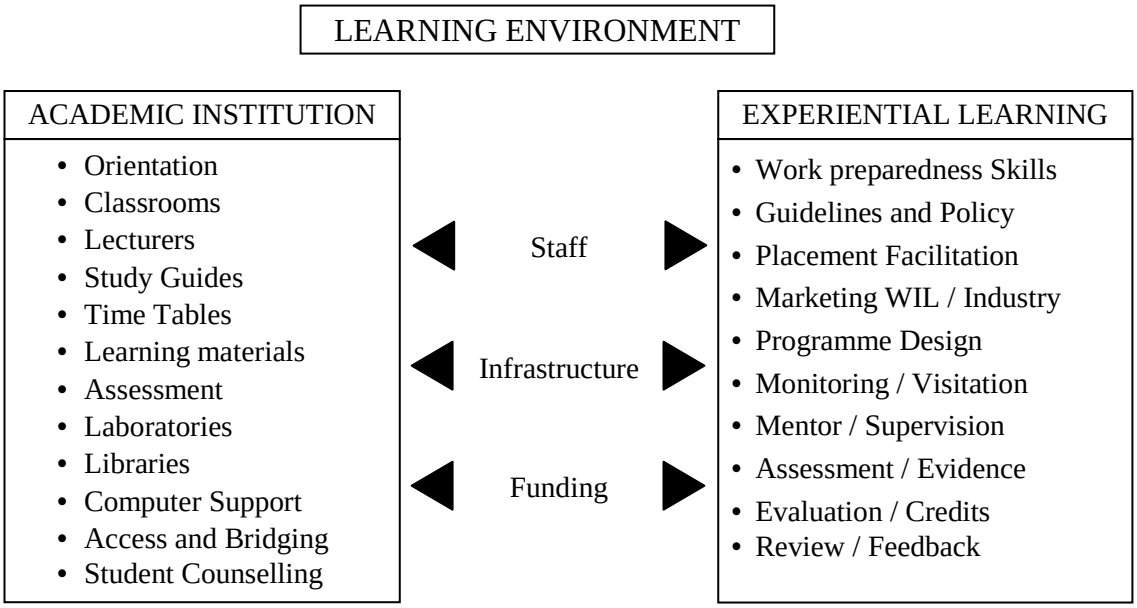


Figure 3: Learning Environment Infrastructure and Support

Qualification Outcomes - Top Down Approach

This process assumes the purpose statement, the exit level outcomes and assessment criteria as a given. Academic curricula engagement along with industry partners then work from the exit levels, and formulate specific outcomes and assessment criteria. The level descriptor definitions speak to the level of complexity of specific outcomes, in terms of the relationship between applied competence and autonomy of learning and hence the rating of the specific outcomes on the NQF level.
An important distinction to bear in mind is that outcomes and grouping of specific outcomes into modular offerings is determined by the assessment criteria and opportunities for integrated assessment. Notional hours and credits would guide curriculum planners as to the most convenient module size for logistical and learning management purposes. In other words subjects do not form the basis of this approach nor does the top down approach lead to current subject type offerings. Assessment as we know it currently (tests, exams, etc.) should not influence our thinking, rather the instruments that would best measure the learning outcomes.

This top down curriculum design process is problematic for the following reasons:

- Current SAPSE requirements relating to measuring student throughput and success is determined by subject marks, as being the measure of judgement.
- New assessment methodologies would be difficult to implement in the absence of a new national system of recording student success.
- A co-ordinated national and institutional strategy should support academic staff and curriculum specialist to ensure sufficient buy-in through training and development interventions.

QUALIFICATION OUTCOMES - BOTTOM UP APPROACH

This approach also accepts the exit level outcomes, assessment criteria and purpose statement of the Qualification as a given. These exit outcomes reflect the end result of learning for the particular qualification. The bottom up strategy is an approach that moves from the "known" (subjects) to the "unknown" (learning outcomes and offerings). Academic staff have been delivering their teaching and learning in subject mode for many years and there is no scientific evidence to suggest that this system has failed.

Many would argue that successful careers have been built on this learning platform and it has stood the test of time, so why do we have to fix it if is not broken. The bottom up is NOT a fix-it strategy but an opportunity to review teaching and learning classroom practise and assessment methodologies, that will enhance learning and deliver better all-round products, given the added focus on the incorporation of critical skills and cross field outcomes. (CCFO's)

The bottom up approach has the following advantages:

- Subjects are used as the starting point of the process.
- Subjects are transposed into outcomes with assessment criteria.
- Level descriptors are described within the construct of the subject offering.
- The re-curriculation therefore works from the bottom up and gives academic staff an opportunity to rationalize and improve from an established position, to the new paradigm, taking along with them the best of the old and incorporating this into the new, with a fuller appreciation and understanding of how the "new" will lead to a more efficient learning system.

Based on the outline above, this macro plan will sequence the operational steps in achieving the desired objectives of curriculum design recurriculation, using the bottom up approach.

Curriculum Design Activities (The key deliverables of the Project)

The success of this project model would presuppose the necessary advocacy, institutional support and academic staff buy-in, along with the agreed participation of industry in a structured forum. The re-curriculation goals and objectives must be agreed and all parties must view the exercise as a capacity building opportunity for improved teaching and learning service delivery with a view to more efficient utilization of all resources and ultimately improved student success. The following list is a suggested sequence of the key activities.

- Profile the graduate competencies of the selected existing qualification.
- Formulate subject specific outcomes for each of the subject offerings.
- Start at level 1 (year 1), and then move on to level 2 and level 3 of the diploma.
- B.Tech could also be considered as the exit point of the qualification.
- Assessment criteria are then established for each specific outcome. In other words we have to ask, "How will we know and measure that the learning outcome has been achieved".

- Prepare level descriptor statements for the learning outcomes at each level to profile the complexity as a progression from one level to the next.
- Content input to achieve and measure the outcomes to be agreed and negotiated between employers and academic staff to align the syllabus to current technology and development needs and at the same time to remove outdated content.
- Assessment criteria and instruments are developed to create opportunities to assess critical and life skills within the discipline context.
- Notional hour estimates to be negotiated and agreed which will translate into credits [1 credit = 10 notional hours] for grouping specific outcomes into modules or subjects.
- Each subject outcomes along with specific outcomes and assessment criteria are then displayed where subject, specific outcome and assessment criteria can be viewed by all as a matrix as illustrated in figure 4 below.

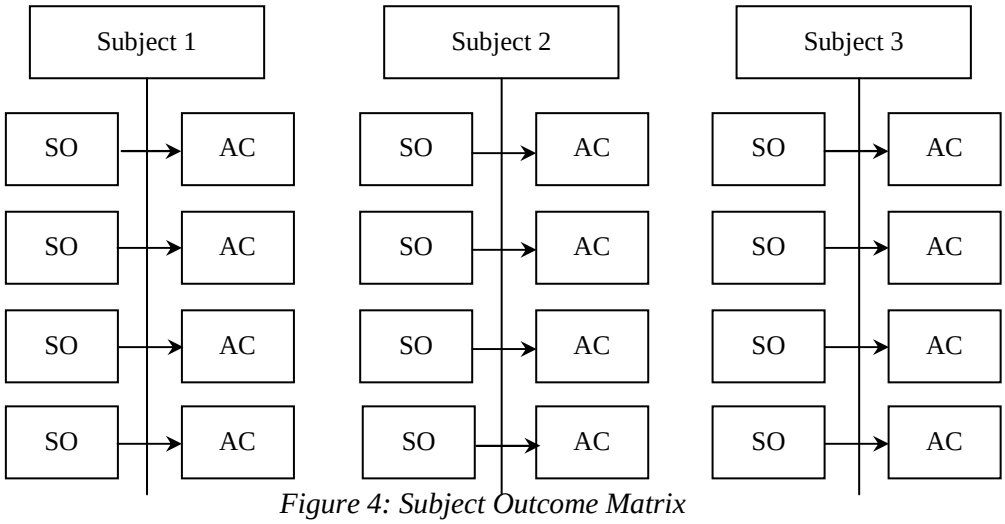


Figure 4: Subject Outcome Matrix

It is important to point out that the above exercise should be carried out and displayed for all subjects at each current year level of study simultaneously so that a holistic view and the progression of complexity can be observed more meaningfully.

By having an overview matrix of the subject specific outcomes and assessment criteria for each subject for each year level of study, the following observations and opportunities will be highlighted:

1. Many outcomes across subjects are similar in intent, but are repeated and hence duplicated.
2. Assessment criteria and instruments are not integrated and are measured independently.
3. Decisions can be made on how to eliminate duplication and overlaps in teaching and learning.
4. Assessment can now be integrated and instruments can be rationalized to reduce the number of assessments in subjects, as we are now assessing outcomes.
5. The assessment of CCFO's can be benchmarked and linked to the discipline context.
6. Existing subject content can be reviewed and weighted in terms of its contribution to achieving the learning outcomes. Outdated content accumulated over years can be removed hence reducing any tendency to content and teaching overload.
7. New innovations in modes of delivery and teaching methodologies can be agreed. Timetables can be restructured to move away from 40 minute slots for subjects, to

learning facilitation of specific outcomes of learning across traditional subject offerings.

8. Learning facilitation can be managed by groups of lecturers in one learning session. Student centred learning now becomes a reality and opportunities to embed CCFO's in learning strategies can be effected.
9. Formative and summative assessment can be implemented more meaningfully as part of a continuous assessment strategy.
10. Level descriptors for learning outcomes can be correctly located and pegged on the NQF (In other words a particular learning outcome that currently is located at say third year level would actually happen at third year but actually be pitched at NQF level 3 or 4 given the applied competence and learning autonomy ratio of the assessment criteria).

Once the learning outcomes and assessment criteria have been rationalized and grouped into more effected learning offerings (maybe still called subjects but with new names that reflect the learning outcome and not the content description), we can then begin to identify and locate (set aside) *which of the specific outcomes can best be achieved and assessed in an authentic context such as the workplace or in the community.*

Along with Industry partners, these outcomes that can best be achieved and measured off-campus, can be grouped, along with their notional hours and credits as the experiential learning component for the qualification. More informed decisions can now be taken, which can impact on experiential learning in the following manner:

- Experiential learning may not be required at all, because all the learning outcomes and assessment can be adequately achieved at the academic institution.
- Experiential learning in industry may not be linked to a fixed and continuous placement periods at one workstation.
- Experiential exposure may require students to spend pockets of time in industry perhaps more than once over the duration of their studies.
- If experiential placements are required the "duration" will be determined and guided by the notional hours of learning required.

An illuminating concept emerging suggests that critical skills (CCFO's) increasingly can become the generic baseline for assessment and the sector discipline in the authentic work environment will serve as the medium to assess the student. Therefore students who qualify in the new dispensation would have proven their applied competencies and learning autonomy pitched at the required NQF levels and exit level outcomes of the qualification.

Level Descriptor and CCFO pointers to Work-Based Learning

The National Qualifications Framework will have ten levels, 1-10. The higher education qualifications framework will occupy six levels of the NQF, levels 5-10. Levels 5-7 are undergraduate and levels 8-10 are postgraduate.

Each qualification level has level descriptors. Level descriptors provide a basis of differentiating the varying levels of complexity of qualifications on the framework. These levels of complexity by agreement may conveniently be categorized for each year in a programme of study.

The level descriptors are the outermost layer of qualification specification. At each level they describe the generic nature of learning achievements and their complexity. Level descriptors are thus broad qualitative statements against which more specific learning outcomes can be compared and located.
The most positive aspect of an outcome-based approach (OBE) for work-integrated learning is that specific outcomes within the qualification can be identified which could best be achieved in the workplace. *The identification of these specific outcomes along with the associated credits and notional hours should inform structured learning and timeframes for work-based experiential learning.* The level descriptors, as currency for staged levels of complexity can be infused into the critical cross-field outcomes, as the basis for generic assessment criteria in any programme discipline. The above scenario presents many challenges and opportunities, but can only be realized if supported by adequate funding and dedicated resources as part of the higher education institutional strategy for curriculum development.

QUALITY MANAGEMENT STRATEGIES

The integrity of the NQF is achieved through the auditing and review of quality learning provision. Quality Assurance of service and programme delivery represents an ongoing cycle of continuous growth and development. Quality should be viewed as a transformative process of implementation, accountability and the pursuit of excellence. A clear understanding of quality definition should underpin approaches to quality delivery. The following distinctions should be noted: (CHE, 2004)

- Quality Assurance – the policies, systems, strategies and resources used by the institution to satisfy itself that quality requirements and standards are being met.

- Quality Support – the policies, systems, strategies and resources used by the institution to support and sustain existing levels of quality.

- Quality Development and Enhancement - the policies, systems, strategies and resources used by the institution to develop and enhance quality.

- Quality Monitoring - the policies, systems, strategies and resources used by the institution to monitor, evaluate and act on quality issues.

Given that the establishment of the NQF is aimed at the level of programme delivery, it becomes necessary for institutions to curriculate programme delivery in line with NQF principles. To this end the following questions specifically relate to work-integrated learning and form part of the outcomes-based approach to teaching and learning.

- What are the learning components (modules) that make up the programme? - *Specific Outcomes*
- How is learner-centredness ensured in the delivery? - *Outcomes*
- How are learners given feedback on their performance? - *Assessment Criteria*

- Does the programme outcomes ensure that the learner is able to integrate the knowledge theory through work-based provider linkages? - *Integrated Assessment*
- How is added value impact and satisfaction review managed and disseminated - *Quality Evaluation & Review*

The HEQC uses the quality cycle approach to quality management as an assessment paradigm for audits and for the formulation of audit criteria. Elements that make up this model could be used as performance indicators for a management framework at the level of student performance and institutional management compliance of the work-based learning environment (CHE, 2002).

The HEQC criteria for programme accreditation in Criteria 1 (ix) (CHE, 2004) states that the characteristics and needs of professional and vocational education are catered for in the design of the programme where applicable. This includes that work-based learning and placement in a work-based environment form an integral part of the curriculum.

Criteria 15 (CHE, 2004) goes on to state that the co-ordination of work-based learning is done effectively in all components of applicable programmes. This includes an adequate infrastructure, effective communication, recording of progress marks and monitoring and mentoring.

In this context the approach would be to ensure that the documented evidence of the operational and learning outcome chain is organized. Operational and networking procedures have to be agreed upon to ensure delivery. Communication networks between students, academic staff and industry mentors have to be structured in terms of outputs of evidence, decision making and problem identification, formative assessment interventions and referral strategies for added value improvement. Figure 5 shows the link and relationship between managing operational quality as well as managing the learning management processes as a set of sequential categories

Quality Management Framework	Learner Performance Management
• Policy Development	• Planning for Learning Outcomes - Preparation - Placement - Curriculum
• Implementation	• Implementation - Monitor / Visitation - Assessment Feedback - Curriculum
• Evaluation / Review / Impact	• Evaluation / Review - Student Success - Satisfaction Surveys
• Improvement	

Figure 5: Quality Management Parameters

QUALITY MANAGEMENT LINKED TO LEARNING OUTCOMES

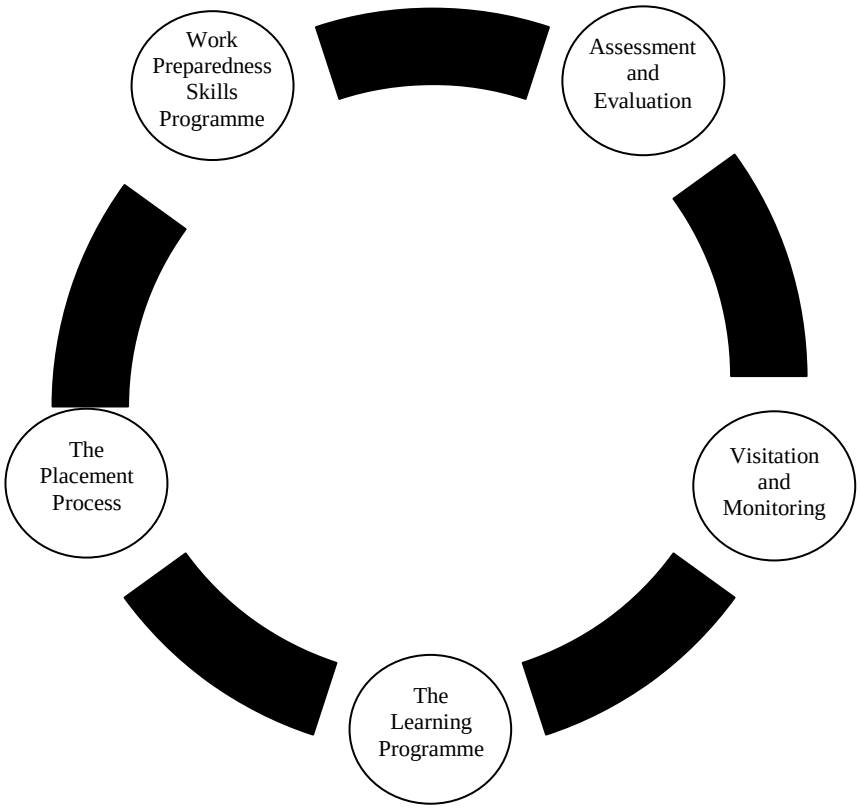
An outcomes-based approach, in line with National Qualification Framework (NQF), is the ideal mechanism to structure learning experiences for students. These learning areas are work preparedness life skills, the placement process, the learning programme, evaluation, impact and review. The NQF arose out of a need for an integrated approach to education and training. The fundamental need was for articulation between education and training which positioned and recognizes all learning in a national framework. This approach supported career paths that included the recognition of prior learning (RPL), different combinations of education and learning, as the basis for progression through recognized levels and across educational bands.

The proposed 10 levels of the NQF are structured to reflect increasing complexity for learning performance and competence, in relation to skills, knowledge, problem solving analysis and accountability, within the range of contexts and disciplines. The outcomes-based approach places the primary focus and emphasis on the outcomes of learning and a move away from traditional content driven syllabi. The result is a student centred approach that encourages self-confidence, reflections on learning and the enhancement of critical outcomes (soft skills) as a link to integration and application of context learning outcomes.

Best Practise for Integrated Work-Based Learning

Best practise relates to the operational implementation of linked core learning elements that will ensure that the work-integrated learning experience of the student enhances development.

Figure 6: Core Learning Elements Cycle



Each core learning element as outlined in figure 6 above, as contributor to student learning could then be examined in detail to define best practise parameters as a minimum standard for regular review and improvement. Each learning element illustrated in figure 6 has its own learning outcome and added value to the student learning and experience. Each core learning element can then be examined to comply with the quality process of *outcomes* to be achieved (see figure 7), followed by the required *input, process and outputs* of evidence for measuring success and for review purposes. Each process element then has its own resource demands and accountability for outputs as shown in figure 7.

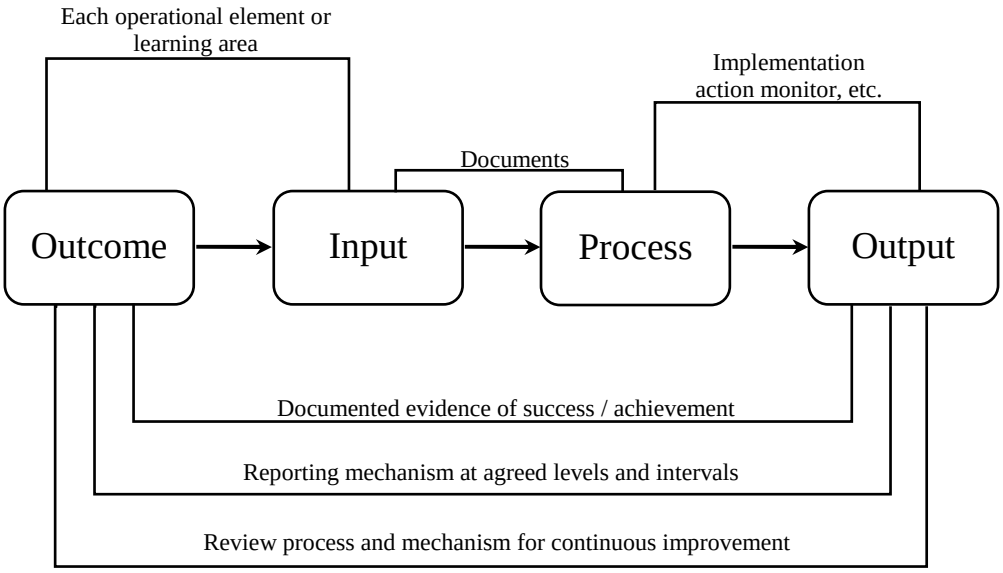


Figure 7: Quality Operational Process Diagram

This approach can now address funding provision linked to specific learning outcomes. The best practise and learning elements are defined and expanded in sequence as follows:

Work Preparedness Skills Programme : Orientation

Students receive instruction to prepare them for the world of work. Policy and rules clarify the obligations of the students, institutions and industry, in the co-operative education partnership. Students acquire job-seeking skills such as CV writing, application procedures, interview and presentation skills. Life skills such as time management, team building and communication are also introduced.

Work-preparedness cannot be achieved by gathering students in a hall for one hour. Students have to be prepared over a period of time. OBE gives us the opportunity to identify specific learning outcomes and assessment criteria that will generate activities and tasks which will allow the student to demonstrate knowledge and competence across a range of learning areas that will prepare them to apply critical skills in preparation for the world-of-work. This learning should be assessed and attract notional hours and credits.

Placement learning process

The higher education institution markets and promotes co-operative education to commerce, industry and government and secures approved workstation opportunities. Learners are introduced to a range of companies and have to apply and secure their own placements. Higher education institutions facilitate the application and interview process as required and students are selected by the companies after short-listing and interview processes.

Placement is *not* an administrative exercise of allocating students to companies. It must be understood to be a *learning experience for the students* where they have to acquire knowledge, skills and competencies to prepare and secure their own placement as an outcome of a placement learning experience. *This placement learning process therefore also has specific outcomes and assessment criteria along with credits to measure success. Students have to meet minimum criteria and then have to apply and experience the shortlisting and interview process, which should lead to the successful outcome of securing a placement. Mock interviews could be part of the learning, which must be assessed formatively.*

The promotion of co-operative education to gain industry support to participate in the programme requires resources *which must not be underestimated*. The often-heard remark of "insufficient availability of workstations" is more often the inability of institutions to provide sufficient and competent staff to market and negotiate good quality workstations to meet the learning needs of the programme. Once the company agrees to participate, competent staff are needed to facilitate the placement learning experience of the student into industry.

Learning Programmes

Learning and specific outcomes are documented to give guidance to the student and mentors on the work-based learning activities for the specific disciplines. Students are guided on how the work learning experiences should be integrated and recorded. Assessment criteria and evaluation timeframes are documented and clarified.

The structured learning begins once the student has been placed. Although the learning programme and obligations are clarified during work preparedness, the student has to be supported once in the learning environment.

The relationship between workplace supervisor and the student has to be monitored by academic institution. Problems associated with interpretations of the learning programme, student and industry expectations, actual workstation conditions need to be orientated so that valuable time is not lost or morale dampened, which could negatively impact on learning progress.

Visitation and Monitoring

Academic staff or co-ordinators visit students to ensure that their learning experience meets the expectations of all parties. The students, mentors and academic staff meet to discuss progress. Logbook entries, presentations or any other agreed evidence portfolios or artefacts may be used to assess student progress. Visits to students at the workplace

are planned timeously and by appointment. Frequency of visits will depend on geographical location, costs and related factors.

Assessment and Evaluation

Interim and continuous assessment occurs throughout the experiential learning period. Assessment and evaluation are performed by mentors, academic staff or external examiners. Logbooks, assignment reports, projects, presentations or any other agreed evidence portfolios may be used to assess and evaluate student learning.

Marks, credits or records of competence are used to reflect student success. Structured and recorded feedback by students and employers in industry can serve as a quality assurance tool for review and improvement.

INTEGRATED ASSESSMENT OF VOCATIONAL PROGRAMMES

Assessment is fundamental to the design of the curriculum. An important point of departure in presenting notions of assessment is the inter-relationship between the assessment of the learner's work-integrated learning and the quality monitoring of the educational management and service delivery in the work-integrated learning environment.

Integrated Assessment of Learning Outcomes

Integrated assessment allows the student to combine key foundational, practical and reflexive competence with some critical cross-field outcomes and apply these in a practical context for defined purposes. The context should be relevant to real life applications (SAQA/CIDA, 2003:62). The integration of knowledge and skills across subjects and terrains of practise is crucial for achieving applied competence as defined in the NQF.

Lecturers across subject disciplines should explore opportunities to assess outcomes across subjects and not subject content only. Lecturers should guard against this type of over assessment which generally occurs and which takes up valuable learner and lecturer time (SAQA 2003), without being of any added value to the candidates applied competencies.

Assessment via Institutional Audits

The Higher Education Quality Committee (HEQC) of the Council for Higher Education in South Africa (CHE) has statutory responsibility to conduct assessment audits as indicated in the Higher Education Act of 1997.

The nature of such assessment does not seek to measure actual quality of outputs in relation to teaching and learning performance but rather to:

- Establish the nature and extent of the quality management systems in place; what policies, systems, available resources, strategies and targets exist for the development and enhancement of quality.

- Evaluate the effectiveness of such systems on the basis of normal evidence produced by the institution that will provide indicators of success and effectiveness.

A multi-model arrangement for assessment has to be negotiated between stakeholders which could include:

- Employer's views on the quality and competence of student performance.
- The student records on reflective understanding and the integration of work-experience with academic learning.
- The preparation of assignments and portfolios.

CCFO's Integration with Contextual Learning Outcomes

Burchell Hodges and Rainsbury (1999) suggests that employers value all competencies in students which would include both technical competencies (ie: hard and cognitive skills) and non-technical competencies (ie: soft or behavioural skills).

The assessment of work placements therefore should measure contextual learning outcomes and these have to be integrated with the generic (soft skills) critical cross-field outcomes which would include:

- To identify and solve problems
- To collect, analyse and evaluate information
- To organise self and others
- To engage in teamwork
- To communicate effectively
- To use technology to enhance learning

The development of an individual capable of reflective practice (Schon, 1983, 1987) and diagnostic evaluation of their own strengths and weaknesses as practitioner in whatever field they are engaged in (Stones, 1994), will likely be of more long-term benefit than assessment based on a rather spurious mark or grade that is based, at best, on a sampling or snapshot of a students' ability on the day or days in which it was conducted. Instead of leaving their programme of study with a "pass" for their work placement, students can leave with a profile or portfolio of their abilities. This also will enable future employers to ascertain if these individuals possess the skills and attributes desired.

Given the understanding that the workplace environments in which students conduct their placements are highly complex and differing environments, the assessment criteria ideally should be embedded and underpinned using the CCFO's as generic outcomes and the discipline context (specific outcomes) used as the medium for measuring the specific outcomes.

CONCLUSION

This paper has prepared a way to link issues of quality, relevance and capacity to the recurriculation of programme design in a qualification with an identified work-integrated learning component. It also attempted to profile and embed academic

rigour and pedagogy into work-integrated learning processes. The overall benefits of such a quality management approach, along with effective curriculum design strategies will enhance the ability of universities of technology, comprehensives and further education and training colleges to profile and deliver off campus work-based learning as an academically viable pedagogy for career focussed qualifications.

BIBLIOGRAPHY

1. Brennan J. and Little B. (1996). A Review of Work-based Learning in Higher Education.CHE Resource Centre, Pretoria.

2. Burchell, N., Hodges, D. and Rainsbury, L. (1999). What competencies do business graduates require? Perspectives of New Zealand stakeholders.Journal of Co-operative Education, 35:2-3.pp 11-20.

3. Committee of Technikon Principals (CTP). (2000). Universities of Technology in South Africa: Role and Function. Creda Communications, Johannesburg.

4. Groenewald, T. (2004). Towards a Definition for Co-operative Education; International handbook for Co-operative Education.Pretoria.

5. Higher Education Quality Committee. (2004). Criteria for Programme Accreditation. CHE. Pretoria.

6. Higher Education Quality Committee. (2004). Criteria for Institutional Audits. CHE. Pretoria.

7. HEQC/JET. (2005): A good practise guide and self evaluation instruments for the quality management of service learning. Draft working document. Pretoria

8. PAWC; Provincial Administration of Western Cape. (2003). A Framework for Developing a Human Resource and Skills Development Strategy in the Western Cape. Final Report. Cape Town.

9. SAQA (South African Qualification Authority. (2000). The National Qualifications Authority and Quality Assurance. Pretoria.

10. SAQA (South African Qualification Authority. (2003). Guidelines for Integrated Assessment. Pretoria

11. SAUVCA. (2004). Curriculum Responsiveness: Case studies in higher education.

12. Schon, D.A. (1987). Educating the reflective practitioner. San Francisco.Jossey-Bass.

13. Stones, E. (1994). Assessment of a complex skill: Improving teacher education. Assessment in Education. 1:2, pp 235-251.

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