Essentials of Co-operative Education Practice

CTP SASCE

ESSENTIALS OF CO-OPERATIVE EDUCATION PRACTICE

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CONTENTS

1. INTRODUCTION

The competitive edge of technikons is founded largely in the practice of co-operative education. The World Association for Co-operative Education (WACE) defines co-operative education as a method of education that combines learning in the classroom (theoretical studies) with learning in the workplace (experiential learning). The importance of incorporating an experiential learning component into the various instructional components is illustrated by the comment that "a competitive economy requires a close link between education and the world" [1].

The Green Paper on Further Education and Training states that the curriculum and qualifications framework of the future "will require a profound shift away from the traditional divides between academic and applied learning, theory and practice, knowledge and skills, and head and hand" [2].

The success of co-operative education programmes depends largely upon close co-operation with commerce, industry, government and the community. It is hoped that this publication, which was compiled in a consultative manner with members from each of these sectors, will provide guidelines for promoting co-operative education and experiential learning at technikons and closer collaboration with these sectors.

In addition to outlining guidelines for stakeholders in the existing co-operative ambit, it is important to note that legislation (i.e. the Skills Development Act of 1998 [3] and the Skills Development Levies Act of 1999 [4]) provides opportunities for technikons to consider the challenges that lie ahead in the provision of skills programmes and learnerships. Although experiential learning and learnerships appear to demonstrate synergy in many aspects, there are also subtle differences between the two approaches that need to be taken into account.

2. FRAMEWORK FOR CO-OPERATIVE EDUCATION

Some of the components of co-operative education at technikons are competitive education and training, market requirements, experiential learning and advisory committees. These are discussed briefly.

2.1 Competitive education and training

Technikons must ensure that the education and training requirements of commerce, industry and government are met. The Education White Paper 3 points out the following: "In particular, the South African economy is confronted with the formidable challenge of integrating itself into the competitive arena of international production and finance which has witnessed rapid changes as a result of new communication and information technologies", and "[a]gainst this backdrop, higher education must provide education and training to develop the skills and innovations necessary for national development and successful participation in the global economy" [5].

To meet the above challenges, technikon staff must keep abreast of the latest developments in technology. This implies that academic staff should be involved in research, participate in conferences and, from time to time, gain exposure to current practice in their fields of expertise through relevant work sabbaticals.

2.2 Market requirements

"Co-operative education best practice starts with the collaborative identification of the specific educational needs of commerce, industry and government for a new or revised programme" [6].

The starting point of co-operative education is to determine the type of economic activities in the region served by the technikon to establish which courses should be offered to best serve the needs of local commerce, industry and the community. This enables the course content and curriculum to be planned accordingly. Naturally, feasibility studies should be conducted to ensure that there will be an adequate and sustainable market for each course.

2.3 Experiential learning

A number of technikon programmes make provision for an experiential learning component, either through work or community placements. The experiential learning process prepares learners for a specific profession or vocation and is important in helping them to become responsible citizens. Furthermore, experiential learning plays a major role in ensuring that learners acquire the critical cross-field outcomes required by the National Qualifications Framework (NQF) [7].

The programme-specific mechanisms of how experiential learning will take place and how it will be assessed and recorded must be documented, and the necessary administrative infrastructures and procedures must be implemented.

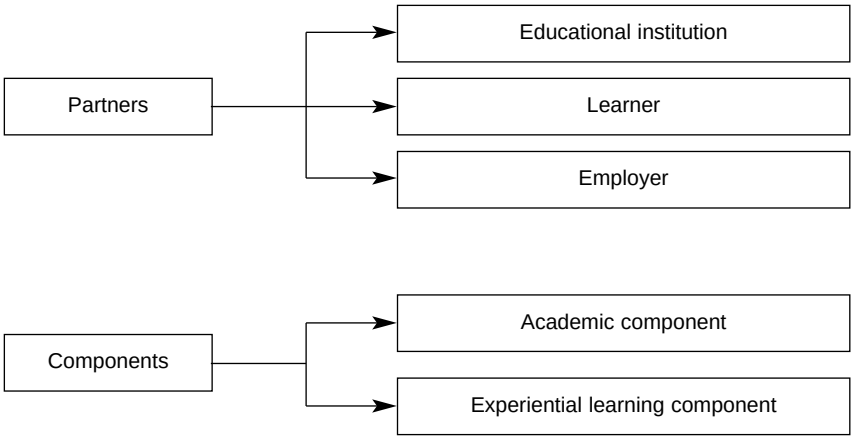
2.4 Advisory committees

To realise a system of co-operative education there must be a process of continuous consultation between the technikon concerned and the various stakeholders. Mutual co-operation between the technikon, industry, government, professional bodies and the community is necessary. To achieve this, technikons use advisory committees, which are composed of representatives from these sectors.

Advisory committees for each instructional programme are a key feature of the system of co-operative education. Through these committees commerce and industry are in a position to advise technikon academics on matters such as future requirements for staff in the different disciplines, course content, implementation of new technology and experiential learning.

3. CONCEPT OF CO-OPERATIVE EDUCATION

Co-operative education is an educational model that incorporates productive work into the curriculum as a regular and integral element of a higher education course. There are three co-operative partners in this model: the **educational institution**, the **learner** and the **employer**. Co-operative education therefore has two main components: the academic component and the experiential learning component.



The main advantages of co-operative education for learners, employers and technikons are as follows:

For learners

- It gives learners the opportunity to apply their theoretical knowledge in a practical situation. As a result, learners find that their studies become more meaningful.
- Learners develop better human relations when they work with persons of different backgrounds and disciplines.
- It improves job prospects after graduation, as learners gain practical experience during their studies for a qualification.

For employers

- Co-operative education affords organisations the opportunity to assess the suitability of learners for further development and possibly recruitment.

- It strengthens the relationship between organisations and the technikon, leading to improved career-oriented education as organisations contribute to curriculum design.
- It improves staff efficiency as learners can assist in handling peak workloads and special projects.

For the technikon

- By means of regular contact with organisations, technikon staff have access to contemporary work practices and new developments in industry.
- Input from organisations ensures that curricula are updated regularly and serve the requirements of the employment sector.
- Increased motivation of learners facilitates the educational task of technikons. All nations benefit from a highly skilled workforce prepared to compete in a global economy and from the educational programmes designed to create such workers. Co-operative education not only produces an able workforce, but reinforces the link between the technikon and work, and provides access to on-the-job earnings. It is an effective means of developing a nation's human resources and reducing training costs, the lag time between hiring and productivity and supervisory time.

The experiential learning component in the co-operative education principle has to allow for career development as focused on the **current needs**, the **short-term projected needs** and the **expected long-term needs** of both the worker (learner) and the employer. It brings the education and training aims to a sharp focus on the career proficiency of each learner. The academic and experiential learning components are interdependent. While the academic component is usually offered by tertiary educational institutions, the experiential learning is usually completed in its entirety in industry, commerce and the public sector. The symbiotic unity of these two elements is shown in figure 1 [8].

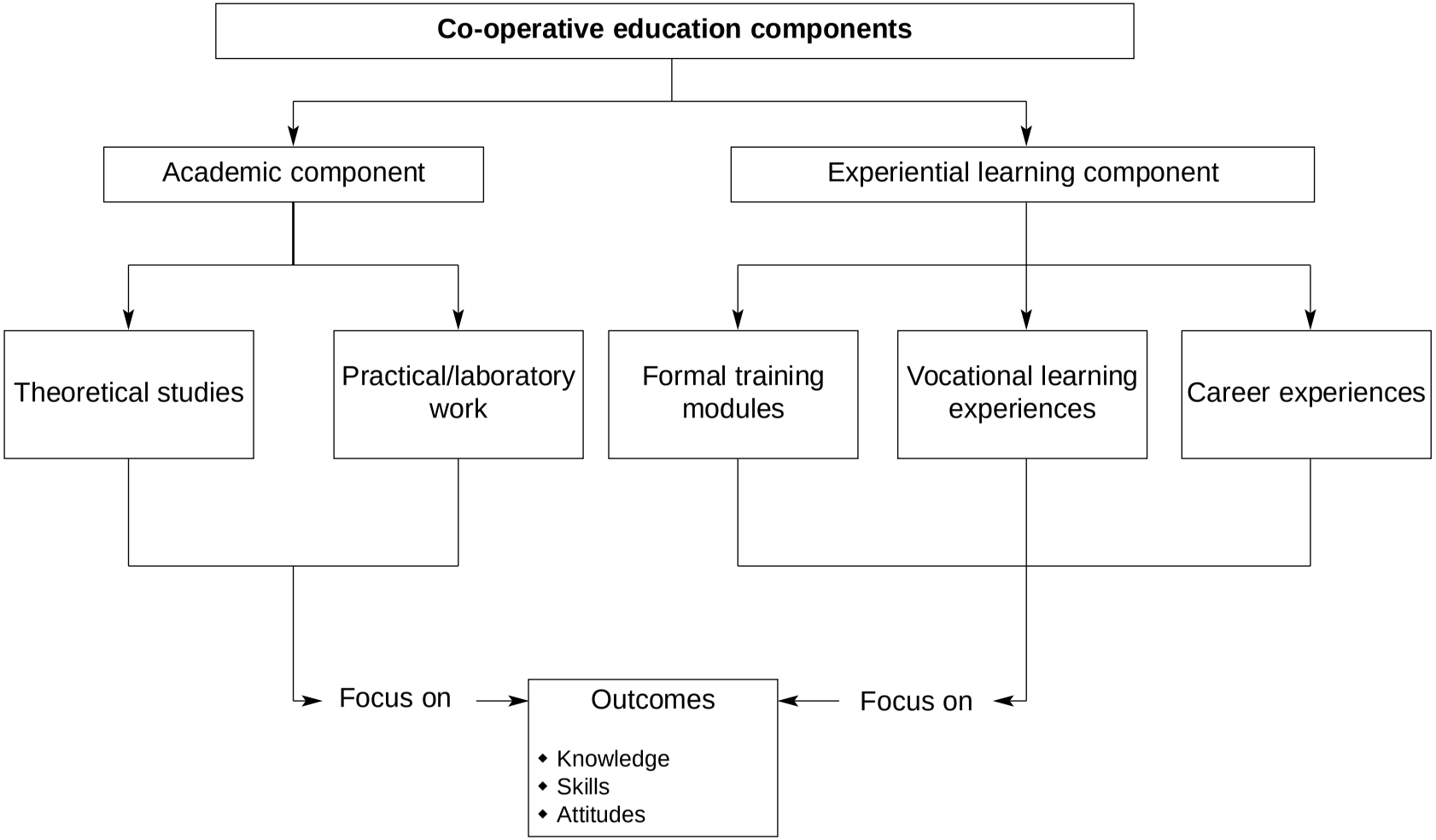


Fig. 1 Components of co-operative education

A few aspects need to be explained further with regard to figure 1:

- Formal training modules refer to training opportunities with clearly defined learning outcomes. The progress of the learner's development and competencies are measured against predetermined criteria.

- Vocational learning experiences (informal training) refer to the experience gained by exposure to the real life of the actual work situation.

- Career experiences refer to those aspects relating to career development to which the learner is exposed during his/her experiential learning, such as formal and informal lines of authority and the scope and relevance of his/her position in the company.

- The primary focus of the outcomes is to describe the **knowledge** base the learner should accumulate, the **skills** he/she should be able to apply and the **vocational attitudes** that should have been instilled when he/she has completed his/her course of study. In other words, the required outcome should be defined before training commences. For this a job analysis and a job description are required. The outcomes should not only focus on predetermined, measurable skills, but should also allow for the acquisition of knowledge and personal skills which are not linked with planned training elements. The specific perspective will determine the focus of the outcomes.

The general aims of a co-operative education programme should include the following:

- To develop a career-oriented course which satisfies the needs of the learners as well as industry, commerce and the public sector.

- To focus academic content of the most recent technological developments on the relevant needs of industry, commerce and the public sector.

- To guide learners in mastering skills in analysing, innovation, synthesising and integrating situations in the work environment.

Training modules should be compiled by clustering tasks or projects. These training modules can quite often be grouped to form larger units, i.e. project subjects. Whether the unit is a training module or a project subject, the standards required can be described in specific objectives.

Assessment criteria should be designed to measure outcomes. The planning phase can be completed by compiling a training programme which specifies the total spectrum of tasks and the minimum number of projects which need to be completed according to a predetermined set of criteria in order to qualify. It is the responsibility of the technikons to verify that the level of proficiency is attained by each learner for both the academic and the experiential learning component before the specific qualification is awarded.

In preparing learners for experiential learning and for the work situation, the value of career planning and career development should be instilled in them from their first year onwards. In this regard a work preparedness skills programme would prove invaluable in empowering learners with the skills that would assist them in finding employment in a highly competitive job market. Along with this is the need to ensure that learners have developed a sense of professional work ethics to grapple with the challenges posed by the world of work. Because of the co-operative education unit's links with commerce and industry, it may be best to associate such programmes with the unit.

4. POLICY DOCUMENTS

4.1 Co-operative education policy

As a co-operative education programme is developed, policy documents governing the programme and participants need to be written. These policies should cover matters such as eligibility to participate, registration for experiential learning and responsibilities of all participants before, during and after experiential learning.

A policy document setting out the principles and procedures of co-operative education at an institution is perhaps the most important set of guidelines for a co-operative education department/unit. **Ideally, the following topics should be addressed in this document** [9]:

- **Mission statement of the technikon and the co-operative education philosophy**

  These should reflect the principles of co-operative education.

- **Definition of co-operative education**

  This should reflect that co-operative education is a programme that formally integrates the learner's academic studies with experiential learning.

- **Outcomes of co-operative education in each course**

  These should reflect the mission and philosophy of the technikon and describe the learning outcomes.

- **Principles of co-operative education**

  The academic and experiential learning components are interdependent, with the academic component usually being offered by tertiary educational institutions, and the experiential learning being completed with a participating organisation.

- **Respective roles of:**

  - **the technikon**, to provide theoretical studies and practical/laboratory work.

  - **the participating organisation**, to provide opportunities and support for experiential learning.

  - **the learners**, to develop competence through the integration of theory and practice.

- **Eligibility for experiential learning**

  This stipulates the criteria for participation in experiential learning.

- **Orientation of learners and employers**

  Documents should provide clarity on all the aspects and requirements involved in participating in a co-operative education programme.

- **Learner registration**

  All learners must register with their technikon for experiential learning and should contact the relevant academic department at the technikon before training starts.

- **Control of experiential learning**

  The manner in which experiential learning will be managed should be described, as this will depend on the specific co-operative education model being used by an institution.

- **Recordkeeping**

  Each instructional programme should have an approved curriculum for experiential learning. Evidence of experiential learning activities should be maintained for recordkeeping purposes.

- **Learner assessment**

  An indication should be given of the methods used and the person/body responsible for measuring the outcomes of the experiential learning.

- **Planning/preparation**

  This refers to the planning of specific learner exposure.

- **Feedback of results**

  Feedback should be given of outcomes/results from the employer to the technikon, and then final results should be communicated to the employer and the learner.

- **Unsuccessful learners**

  The period of experiential learning may be extended for a specific time if the learner does not meet the required standard. The learner will have to pass a competency-based test when this time has elapsed.

- **Debriefing sessions**

  Input from the learners and employers can be obtained by arranging debriefing sessions at the end of each period of experiential learning. This may be carried out at the technikon or at the employer's premises.

- **Monitoring of progress**

  An indication should be given of the methods used for evaluating the progress of learners in terms of predefined learning objectives for a specific programme. This may include information about visits to the workplace, postal and electronic communication and accreditation of companies.

- **Recognition of prior learning**

  The method and criteria used for accreditation of previously acquired experiential learning should be stipulated.

- **Costing and funding**

  Guidelines to provide resources for co-operative education should be given.

In addition to the above topics, the policy document should include an organisational chart indicating how co-operative education fits into the overall academic organisation of the institution. The responsibilities and duties of the various staff members involved in the co-operative education process should also be included. To ensure that the policy is properly executed according to set standards, it must:

- † meet the requirements for experiential learning as set by the CTP, SERTEC and the institution

- † be supported by employers, professional bodies, academic staff and learners

The policy document should be approved by the Senate/Academic Board and included in the official documents of the institution. Copies of the document should be distributed to heads of the academic departments and management of the institution.

4.2 Disclaimer

It is important that all contracts in terms of which the technikon places learners at a company or institution for co-operative education purposes contain a disclaimer whereby any delictual liability for accidents occurring at the institution/company/workplace is excluded. An example of such a disclaimer in the contract concluded with the learner reads as follows:

> *Technikon XX is not liable to the learner or any third party for any damages, injury, loss of life or amenities caused in whatever manner to the learner at the workplace where the co-operative education takes place.*
>
> *Despite the aforementioned, it is the responsibility of the learner to inform Technikon XX in writing of any unsafe or unhealthy conditions in the workplace where the learner has been placed.*

In cases where the learner reaches an agreement separately with the institution or company regarding his/her co-operative education, the technikon is not liable for any damages, injury, loss of life or amenities caused in whatever manner to the learner at the workplace and therefore no disclaimer is needed.

Such a disclaimer should also be placed in the technikon rules and regulations, learner information books, etc.

5. ORGANISATION/MANAGEMENT STRUCTURE OF CO-OPERATIVE EDUCATION IN THE INSTITUTION

Co-operative education programmes are administered in either a **decentralised** or **centralised** manner. A decentralised system functions as part of an academic department and operates totally within it. Thus, for example, a co-operative education programme for chemistry learners is centred in and operates from the chemistry department, and a programme for accounting learners would function within the accounting department. Under such an organisational scheme it would be possible for an institution to have many independent co-operative education programmes, one for each curriculum participating. More likely, however, co-operative education would be organised into larger clusters of curricula such as all engineering curricula or all arts and humanities curricula.

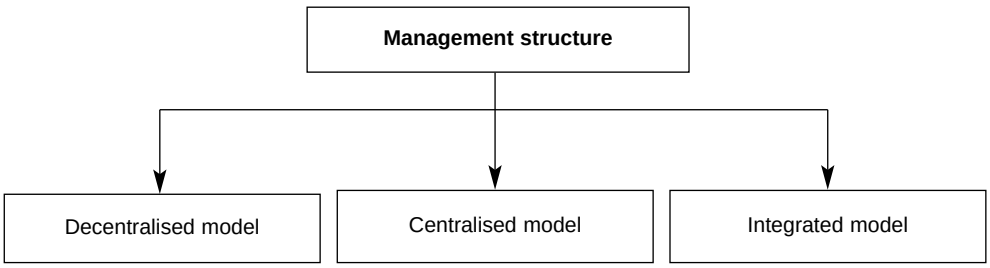
By contrast, there are centralised co-operative programmes in which there is a single co-operative education department responsible for all co-operative education learners within the institution, regardless of their specific field of study. As with other programme considerations, there are advantages to either of these approaches.

The principal advantage of decentralisation is that it places all elements of the co-operative programme within the particular curriculum area and makes for an easier and more natural linkage of academics and experiential learning experiences. Decisions regarding the programme can be made for and by a smaller and more homogeneous group of staff. This fact leads to one potential disadvantage of decentralised programmes. Since each programme is independent, operative policies and structures may vary considerably among them. For example, starting dates for experiential learning experiences and patterns of placements and study may differ. These differences may not pose a problem for the institution, but employers who participate in more than a single programme are likely to find it confusing and annoying.

A centralised programme, on the other hand, may have a single fundamental set of policies that apply to learners in all areas of study and yet allow for diversity among the various fields of study. This structure is administratively convenient, but, according to Wilson [9], may have the disadvantage that the co-operative education programme becomes isolated from the departments that it serves. Some educators have the view that it is easier to emphasise educational issues with a decentralised programme

and that it is administratively more efficient with a centralised programme.

There is a **centralised-decentralised** (partly centralised) model that seeks to attain the benefits of both organisation types. This is sometimes also known as an **integrated model** [10]. In these programmes there is a central co-operative education office that sets the programme's agenda and establishes policy that applies throughout the institution. Yet the programme is decentralised in that the co-ordinators are housed in and interact with the departments they are serving. This approach lessens or eliminates altogether the barriers that often develop between lecturing staff and experiential learning and can result in a closer integration of the two elements of the curriculum. This organisation requires a strong leader, because without one the organisation is very apt to drift in the direction of decentralised programming.



6. GUIDELINES FOR EXPERIENTIAL LEARNING

6.1 Guidelines for participating organisations

The participating organisation provides experiential learning facilities and arranges for training/supervisory staff to assist learners with experiential learning. The exact nature of this experiential learning is based on collaboration between the company and the technikon and in accordance with the requirements of the specific instructional programme.

The organisation and the learner may discuss further detail such as exact starting dates, hours of work and fringe benefits. The organisation, in collaboration with the technikon, controls the training programme and assesses the learner's work.

A record of the learner's assessment must be maintained for monitoring and reference purposes. A record of experiential learning provided by the technikon should be used for this purpose. On completion of the experiential learning, the logbook/record of experiential learning/portfolio must be signed by the organisation and their official stamp placed in the document.

Organisations which have been accredited by the technikon may notify the relevant academic head of department that the learner has met the requirements for experiential learning.

Where organisations are not able to offer the full programme of experiential learning required by the technikon, partial training at an approved institution may be considered. In some cases the technikon itself may be in a position to assist with part of the training that is required.

6.2 Guidelines for learners

Whilst the technikons will provide assistance to learners in securing placements for experiential learning, they cannot guarantee these placements [10].

Learners must register for the experiential learning subjects as soon as they are accepted by a company. They should ensure that the experiential learning is acceptable to the technikon.

Learners must:

- show respect for and understanding of the goals, rules and philosophies of the organisation and the technikon
- take responsibility for co-ordinating and financing transportation, accommodation and related expenses incurred during the experiential learning process
- notify the technikon of any change of address of the place where the experiential learning will be undertaken
- fulfil both experiential learning and academic education requirements before they will be considered for the award of a diploma/degree
- ensure that a logbook/record of experiential learning/ portfolio is kept up to date and signed by the organisation

It is the learner's responsibility to ensure that the experiential learning received is of the required standard and complies with the technikon's guidelines. Learners can undertake experiential learning with more than one organisation. The same organisation can provide experiential learning opportunities for the same learner for more than one work term, provided there is growth in responsibilities and further skills development. Learners may be requested to undergo an interview with a monitor upon completion of the work period.

6.3 Guidelines for the technikon

The technikon must develop and maintain a relevant curriculum that reflects the needs of companies. It must provide an effective mechanism to assist experiential learning learners in the search process for opportunities.

It must further promote the co-operative education programme on the campus and in the community and develop a system that will maintain suitable co-operative education records.

The technikon must work with organisations assisting in the development of suitable experiential learning programmes, the learner selection process and assessment techniques and instruments. It must monitor the learner's progress during experiential learning through personal visits, telephone calls or mail.

Academic staff must advise organisations on how to set up experiential learning programmes. The technikon will provide general guidelines for experiential learning which relates to specific instructional programmes.

The technikon must ratify experiential learning with reference to the applicability and acceptability of awarding a diploma/degree.

Academic staff monitor and evaluate experiential learning in collaboration with organisations.

The technikon may accredit organisations to offer training. Certificates are issued to these organisations for specific training programmes. The accreditation will be valid for a specific period.

Technikon staff should visit organisations periodically to ensure that the experiential learning being offered is of the required standard.

The technikon may request learners to submit assignments during their period of experiential learning. It may consider recognising experiential learning which has been completed before first registration or which has been approved by other technikons.

7. INDUSTRIAL LIAISON/ADVISORY COMMITTEES

7.1 Purpose

The purpose of these committees is to **facilitate two-way communication** on academic matters between a technikon and the community it serves. These committees should meet at least once a year.

7.2 Functions of programme advisory committees

- To advise technikon staff in defining the objectives of the programme and on the specific skills needed by the learners to achieve the objectives
- To assist in the development of a curriculum to meet those objectives
- To assist in the evaluation of the programme of study and curriculum
- To advise the technikon on changes in the labour market which may affect the employment of trainees and graduates
- To assist the technikon in field placement of learners for experiential learning, and placement of graduates, where this is possible
- To advise the technikon on requirements for new programmes and the revision of existing programmes of study to meet new developments in the workplace
- To monitor and report on availability and relevance of laboratories, laboratory equipment and infrastructure required for all programmes and curricula
- To assist the technikon in placement of staff for sabbaticals and/or industrial experience.

7.3 Guidelines for membership

It is suggested that members from the following groups and/or organisations be invited to serve on the advisory committee. The composition of the advisory committee should reflect a significant representation from outside groups and/or organisations [11]:

- Representatives from industry and commerce as nominated by their organisations
- Representatives from local authorities and/or government and employers' organisations where applicable
- Representatives from professional bodies and councils where appropriate
- Members of the faculty board
- Representatives from organised labour where applicable
- A learners' representative
- Recent graduates

7.4 Advisory committee reports

Reports should deal with the following aspects:

- Advice on the continued relevance and sustainability of a programme
- Curriculum content and emphasis
- Continuing education (short courses)
- Effectiveness and desirability of the programme
- Information available as to the performance of graduates with regard to their ability to continue to meet employer requirements and expectations
- Co-operative education and experiential learning
- Outcomes of self-assessment exercises

7.5 Co-operative education unit advisory committee

A co-operative education unit/department may form its own advisory committee/industrial liaison committee to discuss co-operative education matters. Alternatively, members of the co-operative education unit/ department must interact closely or serve on advisory committees of academic departments. This committee should consist of academic staff from programmes with an experiential learning component, employers offering experiential learning placements, other institution administrators, other staff members whose areas of responsibility might be affected by the programme, and learners.

8. PLACEMENT OF LEARNERS

8.1 Placement positions

For the most part, the conditions that apply to full-time employees at organisations also apply to learners in experiential learning placements. The learners cannot displace full-time employees, they are not guaranteed a job at the end of the training period and they are not entitled to wages during experiential learning, although some organisations do pay a nominal allowance or bursary to assist the learners.

The following aspects should be considered in the selection of suitable experiential learning situations [9]:

- **Type of occupation**

  The placement position should provide experience in occupations that require both skills and knowledge.

- **Relevance**

  The placement position should be relevant to the programme outcomes.

- **Opportunities for rotation**

  The placement position should provide a wide variety of direct experiences associated with the occupation. These should not merely be routine experiences of a repetitive nature.

- **On-the-job supervision**

  The placement position should be supervised by someone competent in the skills and technical aspects of the occupation. The supervisor/mentor should be interested and eager to assist in the training programme.

- **Working conditions**

  The working conditions of placement positions should be safe; the company should have a good record of accident prevention.

- **Reputation**

  Establishments that provide placement positions should have a reputation of ethical business practices in the community.

- **Hours of duty**

  Hours in the placement position should be sufficient to ensure the desired outcome.

- **Facilities and equipment**

  Adequate facilities and equipment should be available.

- **Supervisor and learner**

  Good supervisor and learner relationships should exist.

- **Wages/allowances/stipend**

  The question of wages/allowances should be discussed between the learner and the participating organisation.

8.2 Selection of learners

Final selection of learners is really made by the participating organisations.

8.3 Experiential learning providers

Typical examples of these providers are as follows:

- **Participating organisations**

  (workplace)

- **Company "on-site" centre**

  This centre is usually part of the company. The company normally uses the centre for specialised courses on new equipment or technology. Companies that participate in co-operative education plans place learners in the training centre for part of their experiential learning, such as orientation or for specialised short courses that are offered from time to time.

- **Educational institution training centre**

  This is a unit within the institution that has the equipment and infrastructure to offer experiential learning for certain instructional programmes, e.g. Information Technology.

- **Centralised training centres**

  (Institutes for Co-operative Education): These institutes offer experiential learning opportunities for certain instructional programmes, such as Mechanical Engineering and Electrical Engineering.

In the ideal case, learners will follow a structured training programme in which they will be exposed to typical problems that arise in practice. Some of the work may be "simulated". The learners are actively involved in work and problem-solving under the guidance of a skilled mentor. In certain cases, the learners will also undertake projects.

8.4 International placements

International experiential learning placements can be facilitated by formal or informal exchange agreements established between educational institutions. They are basically reciprocal arrangements where, in principle, each local learner sent to a partner is balanced by a foreign learner received from the partner. This facilitation addresses the important issues seen by practitioners as important to successful international placements, namely learner selection, employer selection, learner/job matching, work permits, learner assessment and monitoring [12].

When selecting learners for international placement, several aspects need to be considered. The right learners should preferably have:

- third-year minimum academic standing, prior experiential learning or related, relevant technical skills
- fluency in the language of the country concerned
- good communication and social skills
- enthusiasm for and commitment to the aims of the international programme

The learners are expected to pay for their own travel expenses/visas, etc.

9. MONITORING OF EXPERIENTIAL LEARNING

For an effective system of experiential learning to be developed, it is essential to monitor the process in order to evaluate the progress of learners in terms of pre-defined learning objectives for the programme. Where problems or deviations arise, the department concerned should intervene with corrective action.

Accurate, up-to-date information concerning the experiential learning situation and learner progress is necessary to apply monitoring effectively, and therefore visits to learners and companies are necessary.

The following approaches may be considered:

- Visits by technikon staff
- Visits by an "agent"
- Postal communication
- Electronic communication
- Accreditation

9.1 Visits by technikon staff

Effective worksite visits by staff are essential for successful experiential learning programmes. These visits go beyond "seeing how the learner is doing" and accomplish short- and long-term objectives which include the following:

- **Assessment** of the learner's development within intellectual, human/social and career or professional areas. This includes the effectiveness of orientation, training and supervision provided by the company and quality of the learning environment.

- **Facilitation** of closer collaboration between industry and the institution. This promotes communication between the learner and the supervisor.

- **Promotion** of the educational objectives of the programmes. This reinforces the objectives of co-operative education and the role of the mentor as an educator, and strengthens the personal connections between the technikon, the learner and the company.

The visits should preferably be carried out by persons who are suitably qualified and who have appropriate practical experience. For this reason co-ordinators/lecturers should visit learners where they are placed in the company.

Heads of department should identify/designate certain members of staff to attend to experiential learning matters for the instructional programmes under their control.

Timetables and term/semester planning should allow for the release of these persons from some classes/labs/invigilation for experiential learning visits, and time must also be allowed for them to attend to all aspects preceding and following visits to learners.

Cross-programme worksite visits should be considered where possible [13], [14].

9.2 Visits by an "agent"

In certain cases it may be necessary to consider appointing an "agent" to conduct certain visits on behalf of the technikon, or by collaboration between the technikons. For example, if a learner is placed in a foreign country for experiential learning, it should be possible to arrange with a university or other tertiary institution in that country to undertake a visit to the learner at the placement site.

It may also be worthwhile to consider using such an arrangement locally for visits to learners in remote parts of the country. As is the case for external examiners and moderators, a professional person in the area may be contracted for worksite visits. This may involve a fee, but could nevertheless lead to substantial cost savings.

Some training or a good set of documentation on procedures for visits to learners will be required to prepare such an agent, and companies must be informed of the arrangements beforehand.

9.3 Postal communication

To some extent it is possible to monitor the progress of experiential learning learners by using questionnaires and mentor/learner reports. Postal communication is, however, slow and is not directly interactive.

Questionnaires must be carefully designed to obtain as much relevant information as possible without becoming bulky or cumbersome, as the response to questionnaires is generally not good. A stamped, addressed reply envelope should be provided.

9.4 Electronic communication

The telephone/fax/e-mail can be used to establish contact with companies/learners and is much more direct than the post. The telephone, in particular, allows for a spontaneous interactive situation.

9.5 Accreditation of experiential learning

Accreditation should be seen as a strengthening of the partnership between the technikon and companies. It is an expression of confidence in the experiential learning offered by a company.

Accreditation is preceded by discussions with the company and visits to the premises by technikon staff to ensure that the infrastructure is adequate for the prescribed experiential learning.

The technikon faculty/department must also be satisfied that learners will be guided by suitable mentors. A "checklist" must be prepared before the accreditation visit to ensure that all the aspects of experiential learning for the programme are addressed.

10. MENTORING IN THE WORKPLACE

10.1 Relationships

As one would expect, when dealing with co-operative education as part of the total developmental cycle of the learner, the upliftment/preparation of the learner-in-training has to do with **relationships** [15].

Therefore, for growth and experiential learning to take place, a climate of support and assistance must be created.

Researchers are of the opinion that successful experiential learning benefits from an environment that supports the physical, intellectual and psychological needs of the newcomer/protégé.

10.2 The mentor

Mentorship is the prototype of a relationship that enhances **career development**.

The secret of assimilation (into a company/team/group) is the assignment to each new member of a mentor who will perform the role of **host, friend, confidant** and **advisor** for a period.

Serving as **sponsor**, the mentor may facilitate the young entrant's advancement. He/she may be a host and guide, welcoming the initiate into a new occupational and social world and acquainting him/her with its values, customs, resources and cast of characters.

Through his/her own virtues, achievements and way of living, the mentor may be an example whom the protégé can admire and seek to emulate. He/she may provide **counsel and moral support in times of stress**.

> It is, however, sufficient to say that mentoring is a deliberate pairing of a more skilled or experienced person with a less skilled or experience one, with the agreed-upon goal of having the less skilled person grow and develop specific competencies.

Mentorship is more than just supervision, leadership and/or sharing ideas — **it is a way of life**.

10.3 The mentoring task

It is essential, especially in the training/educational sphere in which we operate, to remember that in many instances the mentor in the work situation takes over the role of the lecturer. He/she should therefore act in such a manner that trust and understanding is fostered to allow a trust relationship to develop between the mentor and protégé.

The responsibilities of the mentor may be defined in three phases:

- Orientation before the protégé starts
- Guidance during the protégé's arrival and for the first two weeks
- Follow-up training and continuous development

The mentor must be sensitive and empathetic to the needs of the protégé and understand the finer detail of human functioning within the work environment.

10.4 Identifying the mentor

The success of any upliftment programme depends largely on the selection and training of the person who will accept the role of the mentor. It remains essential that the tertiary education institute be involved in the accreditation of the mentor to ensure specifically that the learning objectives are met.

The following guidelines for the selection of a mentor may be of assistance:

- A proven career record based on performance
- Rational, logical and systematic approach towards work and life
- A well-rounded higher education background
- Empathy and patience
- A role model/example par excellence
- Ability to be a coach and give direction
- Willingness and commitment to accept all the functions related to mentorship

10.5 Principles for designing education on mentoring

The following guidelines, focusing on behaviour and attitudes, are provided to clarify the importance of a specific "plan" to deal with the principles for designing education on mentoring:

- Define learning objectives for a specific target population.

- Emphasise exploration of **attitudes** toward mentoring and the **behaviour** required to initiate and manage relationships that provide mentoring functions. Supplement skills training and self-reflection with cognitive learning about life and career stages and the role of mentoring in career development.

- Provide opportunities to **practise the interpersonal skills** of active listening, communication, building of a rapport, conflict management, collaboration, coaching, counselling, etc., in role-play situations and/or in discussions of on-the-job relationships.

- Provide opportunities for **constructive feedback** from instructors and participants on interpersonal style and on specific strategies for initiating relationships that provide mentoring functions.

- Provide opportunities to **experiment** with **new behaviour**, and to see models of **effective coaching and counselling**.

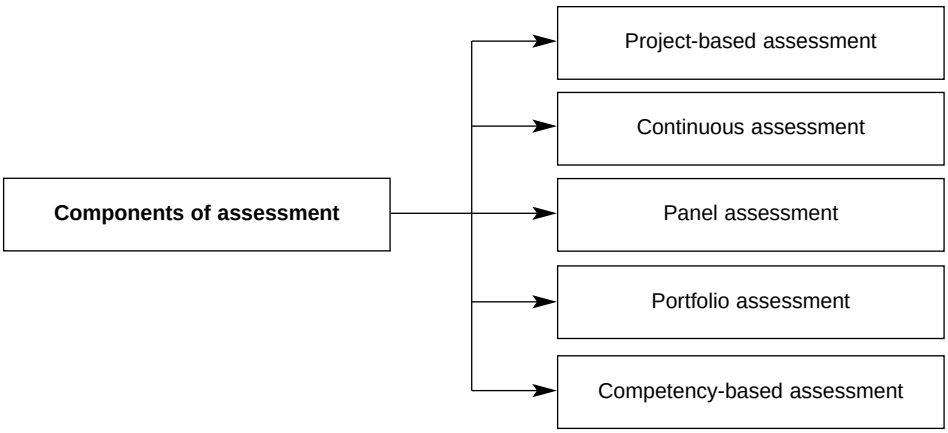
- End with **planning for back-home** application of skills to current and future relationships.

The mentor must be identified and trained in all aspects of mentoring. In other words "the effective supervisor/individual must be trained to become an effective mentor" [15].

11. ASSESSMENT OF EXPERIENTIAL LEARNING

The assessors of experiential learning programmes have the unique assessment problem of measuring performance (achievement) in the occupational laboratory. Since this is not only for grading purposes, but also to help learners advance toward the development of career competencies, assessment should consist of several components [16].

11.1 Components of assessment



Assessment of experiential learning may be based on some or all of the following:

- **Project-based assessment**

  Learners are assessed on the basis of projects completed while they are engaged in experiential learning. This is an indirect mechanism and has to be closely monitored with the workplace supervisor and technikon mentor to ensure that projects are relevant and linked to the experiential learning.

- **Continuous assessment**

  Learners are assessed during the course of their experiential learning. A major part of this technique involves the workplace supervisor. While strict criteria may be laid down, this technique may still be subjective.

- **Panel assessment**

  Learners present a verbal portfolio/project to a panel consisting of academics and representatives of the organisation. Assessment takes place according to fixed guidelines.

- **Portfolio assessment**

  Learners compile a portfolio during their experiential learning. This applies especially to fields of study such as public relations, architecture and programmes in art.

- **Competency-based assessment**

  This method assesses competencies/skills acquired during experiential learning. It has the potential to be the most attractive assessment mechanism in that it assesses whether a learner "can do the job" and to what extent he/she will be successful. A team of assessors can conduct such an assessment on site at specified times with the co-operation of the company concerned. The team may comprise technikon specialists, the workplace supervisor and members of the relevant professional body or society. Should the learner not meet the required standard, the period of experiential learning may be extended for a specified time, at the end of which the learner has to pass a competency-based test.

  This means of assessment also provides an excellent guide for potential employers as to the competency of the learner.

11.2 Assessment instruments/techniques

The following techniques may be used to assess learner progress in the experiential learning situation:

- **Rating sheets**

  Rating sheets are often used to assess learner progress. Alternatively, the organisation can complete a report that describes performance in the language of the vocation. The temptation to overemphasise personal qualities and minimise actual job skills and abilities must be avoided.

It is recommended that rating sheets be discussed personally with the co-ordinator.

- **Work term reports**

  To reinforce written communication, learners submit reports at the end of the work term as part of this experience, as it relates to their career objectives [17].

  Learners should be provided with guidelines and details of expected content of work term reports, together with quality examples.

- **Report back sessions**

  Reports are planned according to learning objectives and could include illustrations, graphs, calculations and tables to clarify descriptions of duties performed or projects completed.

  Successive reports together with learner interview notes provide a documented picture of the progress of the learners throughout the duration of their course. This forms part of evaluation and should consist of well structured and organised debriefing sessions. A panel could be appointed for evaluation purposes.

  Oral presentations can be used to evaluate learners' presentation and communication skills and the audience should include learners yet to undergo their first session of experiential learning.

  Teamwork can be encouraged through group discussions on positive and negative experiences and guidelines provided regarding debriefing and counselling where necessary.

11.3 Assessment and crediting of the educational outcome

Assessment roles

Learner	A written report followed by an oral conference
Employer	Written report and evaluation on observed outcomes (guidance in this regard should be given)
Faculty co-operative education supervisor	Co-ordinates the assessment data and makes the final judgement for awarding credit

The technikon concerned must decide what course of action to follow when learners do not meet the required standard during experiential learning. A decision must be made as to whether the learner has successfully or unsuccessfully completed the course/training programme, or whether the period of experiential learning should be extended.

12. QUALITY MANAGEMENT OF CO-OPERATIVE EDUCATION

Quality is often perceived as a function of customer experience. Future developments and the ability to hold that customer will depend very much on the current satisfaction level. Consequently, it is critical to make certain that stakeholders in the current transaction obtain a high quality experience [18].

12.1 The quality standard

Until the implications of the new educational framework and its related quality assurance structures have been stipulated in more detail, it is advised that the SERTEC specifications be followed as a minimum standard.

12.2 Who is the customer?

In the tripartite arrangement between placement company (employer), learner and institution there is a complex set of supplier and customer relationships. Fundamental to achieving a quality partnership is an understanding of who supplies and who receives and what is involved in the transaction. Currently, learners are considered to be the prime customers and employers the secondary customer, with the institution being the supplier of learner and tuition. Learners are suppliers of intellect, effort and work to the companies. Organisations are also suppliers of vocational experience, whereas the institution continues to be a customer for further placement opportunities, case studies for the teaching programme and applied research funding.

12.3 Quality requirements

- Policy and objectives should reflect commitment to quality. This requires an attitude at personal level that continually seeks quality.

- Process control seeks to ensure that capable processes are applied consistently under control to achieve the requirements of each step.

12.4 Evaluation

Quality control implies evaluation. This can be done in a number of ways and at different levels. Regardless of the exact system used, it should incorporate lecturers, co-ordinators, technikon administrators, the employers at the training stations and, most important, the learners.

12.5 Programme reviews and quality improvement

The programme review has been the major evaluation technique in co-operative vocational education.

The following two ways of evaluating prove particularly valuable:

- The critical factor technique
- Process- and/or product-oriented evaluation

Each element of a co-operative plan is only the means to an end — one part of the entire set of operational functions that make for quality programmes. Judgements about a programme's strengths and weaknesses should be formed, based on all the data collected in the whole review. To determine a programme's successes or failures based only on the results of a few isolated elements is to have violated sound evaluation principles.

12.6 Prime focus of evaluation questions

Numerous questions can guide the review, but questions should be designed to assess both process and product without getting bogged down in operational thinking only.

Some examples of these questions are as follows:

- What evidence do you have that vocational graduates have advantages in the market place over non-vocational graduates?
- Does the course content of vocational education actually reflect changes in the demand for workers and in the needs of the workplace?
- What evidence do you have that co-operative education is effective in assisting existing workers in efforts to upgrade their competencies and increase their productivity and promotability?
- What evidence do you have that vocational education is working effectively for learners with specific needs?

A quality partnership does not just happen — it comes about by the specific effort under a policy which seeks **high quality experiences** and **continual improvement**. Realistic and clear objectives at the start, with all partners entering the arrangements with "open eyes", provides a good basis for success. Interpretation and application of the ideas in many of the requirements of ISO 9001:1994 are essential to ensure conformity [19]. Yet, to maintain progress, quality improvement is necessary to ensure a quality partnership for tomorrow, when each partner will have even higher expectations.

13. FUNDING CO-OPERATIVE EDUCATION

The documents "A Philosophy for Technikon Education" [20] and "General Policy for Technikon Instructional Programmes" [21] both clearly define the niche for technikons within higher education. Technikons should continue to find innovative ways of financing the administration of experiential learning in order to produce the human resources expected from this form of education. Naturally, funding for co-operative education must also be administered as outlined by the Higher Education Act [22].

Methods of funding should ensure that technikons can continue administering experiential learning. Should the necessary funds not be available, clarity needs to be found with regard to aspects that have a direct bearing on the nature and philosophy of technikon education. It should be established whether:

- technikons can operate without the existing partnerships with commerce and industry, e.g. placements, monitoring, education and advisory committees
- industry-based research projects and project work are possible
- employer requirements with regard to curriculum contents and labour market demands are being met
- continuing education and short courses are relevant

Experiential learning is necessary, it adds value to theoretical/laboratory learning, and it gives technikon education the edge in higher education.

13.1 Required funding

- **Staff**

  Costs include all human resources used to achieve the objectives of a programme. Typical staffing in the case of a centralised model include a programme administrator, co-ordinating staff and support staff. The time teaching staff contribute to a programme (decentralised model) should be charged directly to the co-operative programme.

- **Facilities**

  Co-operative education programmes need physical facilities such as office space, interview rooms, reception areas and workrooms. Depending on the accounting practices of the institution, these costs may be charged to the co-operative education department.

- **Equipment**

  As co-operative education programmes are labour intensive, they do not depend greatly on costly equipment. In addition to computers, photocopying machines, fax machines and telephones, access to motor vehicles for monitoring visits is also required.

- **Administrative services**

  Administrative services refer to the co-ordinating and administrative activities which enable co-ordinators and academic staff to manage the industrial component of co-operative education. These services include learner registration, marketing, employer data, public relations, learner orientation and research and development.

- **Other services**

  These include costs incurred as a result of recruitment of placement positions, monitoring, entertainment of employers and advisory committees.

13.2 Methods of financing co-operative education

As the state currently contributes marginally to experiential learning, various strategies are used by technikons to generate the required funds.

These strategies may include [23]:

- charging an experiential learning registration fee
- charging a percentage of the cost of an equivalent academic period
- imposing a co-operative education levy on all subject enrolments

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