COMPETENCY-BASED TRAINING IN CANADA

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Mr Achleitner has worked in various professional capacities in Canada and abroad. As a former college instructor and policy and program advisor to the Minister of Advanced Education and Employment on training and employment strategies, Mr Achleitner has an interest in training and labour market issues. Before accepting the appointment as Dean at SIAST, Mr Achleitner has worked for more than ten years in South East Asia (Indonesia, Philippines). His assignments have included projects funded by the Asian Development Bank, the Canadian International Development Agency (CIDA) and the Swiss Development Corporation, and as General Manager - Training, with a private enterprise in Indonesia (textiles, manufacturing, chemicals).

ABSTRACT

The overall objective of my presentation is to share the conceptual framework of our competency-based education approach, elaborate on curriculum development and validation, explain the roles of the instructors and the program team, explain the process of student assessment and the concept of mastery.

The crucial features of our CBE model shall be described and guidelines offered for practical implementation that may be considered in your own educational settings. If the model is suitable in your environment, a twinning arrangement between our institutes may be worked out.
Introduction

Saskatchewan is one of Canada's three prairie provinces. The name Saskatchewan comes from a Red Indian word for swift flowing river, probably in reference to one of our main rivers, the Saskatchewan river. Saskatchewan covers more than 650,000 square kilometers and is, therefore, more than twice as large as the Philippines, Malaysia or New Zealand, and almost twice as large as Japan, but with only a fraction of the population of these countries. Saskatchewan's main primary industries are agriculture, forestry and mining.

The Saskatchewan Institute of Applied Science and Technology (SIAST) was incorporated under the Institute Act in 1987 and is guided by a Board of Directors whose members are appointed by the provincial Minister of Education. SIAST fulfills its mandate of providing career-oriented adult education, training and re-training to all residents by operating four strategically located urban campuses.

One of these campuses, named Woodland, is a multi-centre adult educational training system dedicated to developing outreach programs and to providing excellent resources and services to other educational institutes, business and industry, whether local, national or international. In a world where advances in international communication have provided a new range of investment and employment opportunities for business and industry, the need for innovative education and training programs designed for the global market place has likewise been emphasized. SIAST Woodland has the drive and imagination, and its programs stretch from the isolated northern regions of Saskatchewan to the Philippines, China, India, Thailand and Australia.

Programs

At SIAST Woodland, the focal point is on the individual, his basic right to education and his entry into the workforce in a field that coincides with his abilities and desires. To this end, SIAST Woodland offers a wide variety of programs from academic - which include adult basic education, basic literacy, upgrading and university accreditation as well as technical and vocational programs in applied arts, business, industry, community services, trades and natural resources.
COMPETENCY-BASED EDUCATION

Philosophical Background

SIAST’s mandate is to provide high quality and relevant educational services in a rapidly changing world. To do this effectively requires a recognition and an understanding of the technological, economic, demographic and social changes that are continuously impacting on student, client and industry needs. The rapid pace of technological change, the arrival of the information age, the globalization of markets, the emergence of small business as key players in economic development, the growing importance of the service sector, the decline of employment, the changing nature of work and the increasing racial and cultural diversity, all warrant attention. In response, our goal is to establish a program model that will enable our institute to achieve a sustained capacity to react to these changing needs in a meaningful, creative and effective way.

SIAST Woodland’s vision statement sets the philosophical direction by articulating the foundation principles upon which our model and practices should be based.

The cornerstone of our educational outlook is the provision of effective learning opportunities within our environment that is attuned to students and their learning needs. Learning is viewed as a partnership at Woodland; a guiding principle is that students, with the guidance and support of a committed, capable staff, must play a direct role in planning and managing their learning experiences...Our outlook culminates in the concept of the learning organization, an organization in which the mission and the means of regeneration are rooted in learning. (Woodland Outlook Statement, 1995)

Woodland Institute serves a population with varied educational, cultural and personal needs. Students include the educationally disadvantaged as well as sophisticated adult learners. The Institute must be able to accommodate the Northern and Aboriginal peoples, as well as a wide array of other racial and cultural minorities; urban or rural. The poor and displaced worker as well as the worldwide consumers must be attended to.

The fundamental principles of adult education need to be recognized and adhered to in order to meet the needs of the adult learner. Adults generally are goal and activity oriented. They thrive on work that has meaning for
them; that builds on their prior knowledge and experience; and that allows them to take charge of their own destiny.

The present approach to competency-based education (CBE) with its reliance on print-based materials, objective testing, limited curriculum choices, rigid seminar and workshop schedules, and administrative constraints is not adequate to meet these diverse needs. However, the lockstep, content-centered, time-defined large group instructional approach characteristic of older school models is even less appropriate.

The educational focus in Woodland is on the students, the learning processes, the learning outcomes and the achievement of proficiency in the roles for which they are training. In this context, the workplace plays an increasingly central role in the identification and validation of curriculum as well as a place for practicing and assessing role functions. The approach to education at Woodland becomes integrated and holistic as general role attributes are balanced within specific role tasks, as employability and higher order thinking skills are integrated and as the practical and theoretical components are connected. Working and learning become natural extensions of each other.

For SIAST Woodland, this means a commitment to put people and learning rather than the institution at the centre. It seeks to be outward-looking to provide learning experiences in a variety of settings and modes and to internalize the distinction between learning and instruction seeing ourselves as only one element in a life long learning process. The Institute aims to adapt to a world of more independent learners, to recognize and focus on the fundamental attributes necessary for proficiency in the world of work, as well as proficiency in continuous and life-long learning.

In order to develop an authentic learning culture, educators must be freed from bureaucratic barriers and systems that detract from their more fundamental role of facilitating learning. They must be given a greater measure of professional authority and responsibility to take charge of designing curricula, learning activities and environments, assessing learning outcomes, becoming initiators of change and educational entrepreneurs. Program staff need to take the responsibility of determining and providing the appropriate mixture of educational offerings to meet the needs of full- or part-time, on- or off-campus students.

It is important to recognize that technology has changed and continues to change society and the workplace as well as the way education is being delivered. Students can now access courses and programs that meet their specific needs without setting foot inside an educational institution or being
confined to a time and place. When developing curriculum and instructional designs, program staff need to consider the use of computer-assisted learning, the internet and other multi-media approaches to increase educational value, accessibility, flexibility and cost effectiveness.

The features of the program model and the accompanying practices form a broadly-based, yet coherent, conceptual framework based on these philosophical beliefs.

**Conceptual Framework**

To be considered competency-based, a program must be:

- Based on an assessment of practitioner roles
- Outcome-oriented, that is, the essential curriculum feature is a preoccupation with the learners' ability to perform a role
- Assessed on relevant evidence of occupational role performance

**The concept of competence:**

- Is a holistic notion that applies to one's ability to fill a role in life
- To be considered "competent", an individual must be able to perform all aspects normally considered essential to a given role. These aspects take many forms some of which are readily visible and measurable, and others which are subtle and implied. The proficient use of interpersonal communication, problem-solving, personal management and the tools necessary for independent learning underlie the ability to perform a variety of role tasks.

The CBE curriculum must be derived from and continuously validated by the occupation or occupational field. The CBE curriculum emanates from an identification of the essential functions contained in the occupational role; from these, learning outcomes are derived and learning experiences are designed.

Curriculum development needs to reflect a variety of educational approaches appropriate to supporting on- and off-campus, full- and part-time students. While the elements identified in the present Curriculum Design Model provide a sound educational basis for any mode of delivery, the standardized learning guide format may not be the most flexible and
efficient approach to use for all programs and courses. With a broader and more integrative approach to education, employability skills, process and higher order abilities are integrated with day to day instructional activities.

The goal is for personal competence that includes but is not restricted to the acquisition of specific job skills. If instruction is seen as the provision of learning experiences, instructional design then involves the creation of activities and the appropriate corresponding environments that would facilitate and enhance learning.

**The Instructor's Role**

The Instructor's role includes the following tasks:

- a designer of learning activities and environments and a facilitator of learning experiences
- an advisor, a motivator, a coach, a resource person
- an evaluator of the instructional process and of student progress
- the link between student learning and workplace requirements

Instructional approaches that are experiential, practical and often open-ended, those that encourage autonomy, creativity and self-direction are recommended. Workplace, laboratory or classroom settings, group or individualized approaches, the use of multi-media, print-based or lecture modes of delivery are all possibilities. Environments that utilize or simulate the workplace should be an essential part of all programs. Practicums and workplace training cannot be viewed as interesting add-ons, but as essential features.

The instructor's role must be broad and autonomous; it must not be driven by restrictive and limiting systems. Program staff must have the responsibility and authority for all aspects of the curriculum and instruction such as: curriculum development and revisions, the creation of learning resources, the design and creation of assessment processes and the support of students in their learning endeavors.

**The Role of the Program Team**

The program team role involves a dynamic process of collaboration, reflection and planning. As a team, it is their responsibility to continuously plan and adapt the mixture of educational offerings in order to respond appropriately to the needs of full- and part- time, on- and off-campus students, as well as the ever-changing industry needs. Staffing and
resources need to be planned and balanced accordingly. Program staff must provide meaningful and relevant programming where it is needed and when it is needed in an appropriate delivery mode. This is a departure from the old notion of institution-based education and training. Program teams also need to be concerned with graduate output, attrition rates and operational efficiency.

**Student Assessment**

Student assessment must take multiple forms. Central to this notion is that assessment must be based on relevant evidence of occupational role performance. Features of authentic assessment include measuring tasks that relate directly to a workplace role; that reflect the values of the occupational role or field; that require group problem-solving effort; that have more than one acceptable solution to a problem; that have relevance to the curriculum but are not limited by it; that allow for student choice to display what has been learned; and that exhibit holistic understandings The evidence may come from everyday experience, workplace experience, projects and assignments, as well as more conventional classroom tests and exams. Objective, content-oriented testing is an inadequate measure of proficiency, since single correct solutions are not the norm of the workplace or of intellectual life. Fewer tests that are more open-ended learning experiences and that integrate the practical with the theoretical are recommended. Therefore, an essential part of the assessment process must occur in the workplace setting. Multiple assessments are necessary and desirable to evaluate both explicit and implicit attributes for role proficiency.

**The Concept of Mastery**

We need to move beyond the notion that "mastery" is reflected by an arbitrary standard of 80% on theory tests or 100% on performance tests. Instead, specific functions need to be viewed in terms of how they contribute to overall role performance. Obviously, some functions are fundamental to role performance and so it might be conceivable that high standards are expected of everyone. In other cases, there may be greater variance in the acceptable standards with the notion that proficiency will improve with further practice in the workplace. Inherent in this notion is the fact that students learn at different rates, in different ways and different contexts. Ultimately, "mastery" implies role performance as defined by the practitioners, not as grade levels or other artificial indicators related to workplace requirements.
Features of the Model

1 A Shared Responsibility for Learning

The emphasis is on student learning needs and how they can be met through the combined efforts of staff and students. Learning experiences can be tailored to meet the needs, the preferences and circumstances of individuals within a negotiated individual program plan, offering as much flexibility as is deemed reasonable within institute resources and sponsorship limitations.

Guidelines for Practice:

The recently approved Student Management Process should be followed. It is based on planned flexibility and shared responsibility between students and faculty. It includes strategies to assist students with program planning; methods of facilitating and monitoring student progress, and the role of faculty as advisors to students. It also identifies the roles and responsibilities of institute personnel as well as the role of the student in each phase of the process, starting from the pre-entry to the graduation/completion or discontinuation phase. It provides a cohesive framework intended to keep the focus on student needs and student learning.

2 Flexible Intake/Exit

Fixed and/or continuous entry into programs and flexible exits from programs should address the need for accessibility and flexibility for adult learners as well as the need for institute and program cost effectiveness. Some programs lend themselves better to continuous entry while others operate more effectively with fixed group entry of students or a combination of both.

Guidelines for Practice:

Student intakes need to be planned and regulated by the program teams. Student exits from programs should also be planned and accommodated. Funding, administrative efficiency, as well as the needs of student and industry, must be considered. On-campus intakes could decrease if off-campus demands increased and vice versa.
3. Life-long Learning Culture

Woodland’s outlook statement emphasizes that learning is highly valued and that its mission and means of re-generation are rooted in learning. The expectation is that adults may return at times for further learning based on personal development and changing workplace needs. The availability of part-time learning opportunities is vital to the promotion of continuing learning as an integral part of adult life with its many competing roles.

Guidelines for Practice:

Institute and program planning is needed to balance full-time and part-time student access, both based on student and industry needs, as well as the institute’s need to show some measure of success in terms of graduate output and job placement. Planned part-time access and successful completion of student goals need to be tracked accurately in order to provide better accountability, more accurate statistics and information for future planning.

4. Extended Day Operations

The access to programs and facilities may be beyond the normal daily and weekly hours.

Guidelines for Practice:

Careful planning by both the Institute and its programs is required in order to utilize resources, facilities and staff time more efficiently. Staff assignments over extended hours require deliberate consideration to ensure compliance with our collective agreement. Program teams need to make decisions based on student, community and industry needs. Our challenge is to achieve better cost effectiveness.

5. Extended Forms of Programming

This covers all forms of programming beyond full-time on-campus offerings. These include campus credit courses and programs, non-credit courses, distance education, customized courses and the present Future Skills initiative.
Guidelines for Practice:

As an integral part of Woodland’s mandate, outreach programming needs to be “user friendly”, accessible and cost effective. Curriculum development and format need to reflect the instructional approach most desirable for the particular learning situation. It is important to recognize that many of our programs can be accommodated through multi-media, conventional, individualized, workplace training or a combination of these. The approaches to instruction and assessment can vary at different sites but the expected outcomes and standards should be the same. Program and Extension personnel should be responsible for determining the feasibility of the programming, as well as the approaches to instruction based on the needs of the students, community or industry that are being served.

6 Modular Programs

Modules are a group of instructional units with related learning outcomes. New courses can be created and customized to meet individual and client needs by combining appropriate modules or instructional units.

Guidelines for Practice:

This feature has great potential to open accessibility, to increase flexibility and to support credit accumulation as well as credit transfer. The planning and developing of modular programs must be the responsibility of the program teams.

7 Prior Learning Assessment

This is a process through which previously acquired abilities can be formally recognized through the award of credit. The assessment is based on criteria and standards identified by the occupation or occupational field.

Guidelines for Practice:

Students may challenge some of the course or program competencies if they believe they have the necessary abilities gained from work or life experiences. Criteria used for assessment must be based on the performance standards identified by the occupational field. Experienced practitioners in the field should be able to successfully complete all assessments. The methods of assessment would need to reflect the recognition that the same outcomes can often be reached in a variety of ways.
8. **Flexible Formal Entry Requirements**

The Woodland admission policy and the program-specific entrance criteria provide flexible entrance into programs within a formalized framework.

**Guidelines for Practice:**

The spirit and intent of the Woodland Admissions and Student Management policies need to be understood and reflected in the practices used to set students up for success.

The Woodland Admission Policy for Technical and Vocational Programs seeks to remove all non-essential and superficial barriers to fair access. It is based on the principle that applicants have the right to make informed decisions about their educational undertakings, based on accurate and adequate information about program and entry requirements. By articulating program specific criterion that is consistent with the abilities needed to benefit from the course of studies being considered, a reasonable assurance of student success can be provided. The Student Management Plan outlines the processes that will help to facilitate and support the entry and orientation of students to the campus and programs.